

# EXHIBIT A



JONATHAN J ENGLER  
Tel: (202) 407-8625 ▪ engler@adduci.com

February 1, 2021

**VIA ELECTRONIC FILING**

The Honorable Lisa R. Barton  
Secretary to the Commission  
U.S. International Trade Commission  
500 E Street, S.W., Room 112  
Washington, D.C. 20436

Re: *In the Matter of Certain LTE-Compliant Cellular Communication Devices*, ITC  
Investigation No. 337-TA-\_\_\_\_\_

Dear Secretary Barton:

In accordance with the Commission's Temporary Change to Filing Procedures dated March 16, 2020, Complainant Evolved Wireless, LLC submits for filing the following documents in support of Evolved's request that the Commission commence an investigation under Section 337 of the Tariff Act of 1930, as amended:

- One (1) electronic copy of Evolved's Verified Confidential Complaint (19 C.F.R. § 210.8(a)(1)(ii));
- One (1) electronic copy of Evolved's Verified Non-Confidential Complaint and Public Interest Statement. (19 C.F.R. §§ 210.8(a)(1)(i) and 210.8(b));
- One (1) electronic copy of Evolved's letter and certification requesting confidential treatment for the information contained in confidential exhibits 162C and 228C to the Verified Complaint. (19 C.F.R. §§ 210.5(d) and 201.6(b));
- One (1) electronic copy of the public exhibits to the Verified Complaint including:
  - One (1) electronic certified copy of United States Patent Nos. RE46,679 ("the '679 patent") and 10,517,120 ("the '120 patent"), cited as Exhibits 1 and 3 to the Verified Complaint (19 C.F.R. §§ 210.12(a)(9)(i));
  - One (1) electronic copy of a non-certified version of United States Patent No. RE48,326 ("the '326 patent"), cited as Exhibit 2 to the Verified Complaint. Evolved has ordered a certified copy of the '326 patent and will provide a certified copy as soon as it is received.

The Honorable Lisa R. Barton  
February 1, 2020  
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- One (1) electronic copy of the certified assignment records for the '679 patent, the '326 patent, and the '120 patent, cited as Exhibits 4-9 to the Verified Complaint (19 C.F.R. § 210.12(a)(9)(ii)); and
  - One (1) electronic copy of the public version of confidential exhibits 162C and 228C to the Verified Complaint (19 C.F.R. § 210.8(a)(1)(i)).
- One (1) electronic copy of confidential exhibits 162C and 228C to the Verified Complaint (19 C.F.R. §§ 210.8(a)(1)(ii) and 201.6(c));
- One (1) electronic copy each of the certified prosecution history of the '679 patent and the '120 patent, which are included as Appendices A1 and C1 to the Verified Complaint (19.C.F.R. § 210.12(c)(1));
- One (1) electronic copy of the non-certified prosecution history of the '326 patent, which is included as Appendix B1 to the Verified Complaint. Evolved has ordered a certified copy of the '326 patent prosecution history and will provide a certified copy as soon as it is received.
- One (1) electronic copy of each patent and applicable pages of each technical reference mentioned in the prosecution history of the '679 patent, the '326 patent, and the '120 patent (not already part of Appendices A1, B1, and C1), which are included as Appendices A2, B2, and C2 to the Verified Complaint (19.C.F.R. § 210.12(c)(2)).
- Photographs of representative infringing imported articles from each proposed respondent in lieu of physical samples per Commission Rule 210.12(b), included as Exhibits 193-223 to the Verified Complaint. Physical samples of each proposed respondent's infringing imported articles are available for inspection at the offices of Complainant's counsel.
- Photographs of the representative domestic industry articles in lieu of physical samples per Commission Rule 210.12(b), included as Exhibit 224 to the Verified Complaint. Physical samples of the representative domestic industry articles are available for inspection at the offices of Complainant's counsel.

The Honorable Lisa R. Barton  
February 1, 2020  
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I am available at your convenience to answer any questions. Thank you for your attention to this matter.

Sincerely,

/s/ Jonathan J. Engler  
Jonathan J. Engler

*Counsel for Complainant Evolved Wireless, LLC*

Enclosures



JONATHAN J ENGLER  
Tel: (202) 407-8625 ▪ engler@adduci.com

February 1, 2021

**VIA ELECTRONIC FILING**

The Honorable Lisa R. Barton  
Secretary to the Commission  
**U.S. INTERNATIONAL TRADE COMMISSION**  
500 E Street, S.W., Room 112  
Washington, D.C. 20436

Re: *In the Matter of Certain LTE-Compliant Cellular Communication Devices*,  
ITC Investigation No. 337-TA-\_\_\_\_\_

Dear Secretary Barton:

Pursuant to Commission Rules 210.5(d) and 201.6(b)(1), Complainant Evolved Wireless, LLC respectfully requests confidential treatment of the business information contained in the Verified Confidential Complaint and Confidential Exhibit Nos. 162C and 228C.

The information contained in the Verified Confidential Complaint and Confidential Exhibit Nos. 162C and 228C qualifies as confidential business information pursuant to Commission Rule 201.6(a) because:

- It is not available to the general public;
- The disclosure of such information would cause substantial harm to Evolved and Evolved's licensee, LG Electronics Co., Ltd., and Evolved's and LG's respective competitive positions; and
- Unauthorized disclosure of the information could impair the Commission's ability to obtain information necessary to perform its statutory function.

Please contact me with any questions regarding this submission. Thank you for your attention to this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Engler", is positioned below the word "Sincerely,".

Jonathan J. Engler

**UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.**

In the Matter of:

**CERTAIN LTE-COMPLIANT  
CELLULAR COMMUNICATION  
DEVICES**

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**Inv. No. 337-TA-\_\_\_\_\_**

**CERTIFICATION REGARDING REQUEST FOR CONFIDENTIAL TREATMENT**

I, Jonathan J. Engler, counsel for Complainant Evolved Wireless LLC, declare as follows:

1. I have reviewed Evolved's Verified Confidential Complaint and Confidential Exhibit Nos. 162C and 228C filed concurrently with this Certification.

2. Confidential Exhibit 228C is a private agreement between Evolved and LG Electronics Inc. that contains confidential information regarding the terms of the agreement and the circumstances that led to the agreement, which is not available for public dissemination. Disclosure of this information to the public would cause substantial harm to Evolved and LG, their respective competitive positions, and their ability to negotiate future agreements. Disclosure of this information would also impair the Commission's ability to obtain information necessary to perform its statutory function.

3. Confidential Exhibit 162C contains confidential commercial and financial information concerning LG Electronics Co., Ltd.'s investments in its domestic industry, which is not available for public dissemination. Disclosure of this information to the public would cause substantial harm to LG and its competitive position. Disclosure of this information also would impair the Commission's ability to obtain information necessary to perform its statutory function.

4. I declare under penalty of perjury that the foregoing is true and correct. Executed this 1 day of February, 2021 in Washington, DC.

Dated: February 1, 2021

Respectfully submitted,

/s/ Jonathan J. Engler

Jonathan J. Engler

**ADDUCI, MASTRIANI & SCHAUMBERG LLP**

1133 Connecticut Avenue, N.W., 12<sup>th</sup> Floor

Washington, D.C. 20036

Telephone: 202-467-6300

Facsimile: 202-466-2006

E-Mail: EW-001@adduci.com

*Counsel for Complainant Evolved Wireless  
LLC*

**UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.**

In the Matter of:

**CERTAIN LTE-COMPLIANT  
CELLULAR COMMUNICATION  
DEVICES**

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**Inv. No. 337-TA-\_\_\_\_\_**

**STATEMENT OF PUBLIC INTEREST**

Pursuant to 19 C.F.R. § 210.8(b), Complainant Evolved Wireless, LLC respectfully submits this separate Statement of Public Interest, filed concurrently with the Complaint.

This proceeding involves the importation, sale for importation, and/or sale after importation into the United States of certain LTE-compliant cellular communication devices that infringe U.S. Patent Nos. RE46,679 (“the ’679 patent”), RE48,326 (“the ’326 patent”), and/or 10,517,120 (“the ’120 patent”) owned by Evolved. Specifically, Evolved seeks limited exclusion orders directed to each Proposed Respondent and their subsidiaries, affiliates, agents, successors, and assigns covering the LTE-compliant cellular communication devices detailed in the Complaint (“Accused Products”). Evolved also seeks cease-and-desist orders against each Proposed Respondent and a bond upon each Proposed Respondents’ importation of infringing products during the Presidential review period.

At the outset, this investigation involves standards-essential patents. In particular, and as described in more detail in the complaint, LG Electronics Inc. (“LGE”) - the original patent owner and now Evolved’s licensee, declared each of the asserted patents as essential to the LTE mobile communications standard, a 4G wireless broadband technology developed by the Third Generation Partnership Project (“3GPP”) and administered by the European Telecommunication Standards Institute (“ETSI”). In its declarations to ETSI, LGE committed to license the asserted patents, as



well as others that have been declared as essential to those 3GPP standards, on terms that are fair, reasonable, and non-discriminatory (“FRAND”). Evolved conducts its licensing efforts in accordance with ETSI’s intellectual property rights policies and has been attempting to do so with respect to the Proposed Respondents’ Products, albeit with no reciprocal cooperation from the Proposed Respondents.

Whether to issue remedial orders based on standards-essential patents is evaluated as part of the Commission’s public interest analysis, which comes after a violation determination. *Certain Indus. Control Sys. Software, Sys. Using Same, & Components Thereof*, Inv. No. 337-TA-1020, Order Denying Request for Entry into Early Disposition Pilot Program (Sept. 13, 2016). To help in that decision, the Commission has occasionally asked the presiding ALJ to take evidence and argument with respect to the public interest and provide findings of fact and a recommended determination.<sup>1</sup> Likewise, the U.S. Trade Representative’s guidance to the Commission following disapproval of the remedy in *Certain Elec. Devices, Including Wireless Commc’n Devices, Portable Music & Data Processing Devices, & Tablet Computers*, Inv. No. 337-TA-794, encourages the Commission and the private parties to “develop a comprehensive factual record . . . , including . . . the presence or absence of patent hold-up or reverse hold-up.” Letter from Ambassador Michael B. G. Froman to Hon. Irving A. Williamson, Chairman, U.S. International Trade Commission (Aug 3, 2013), at 3.

Evolved submits that the facts will establish that there is no reason to withhold Commission remedies because the Proposed Respondents have refused to negotiate a FRAND license and, therefore, the Proposed Respondents are unwilling licensees.

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<sup>1</sup> See, e.g., *Indus. Control Sys. Software, supra*, Institution of Investigation at 2 (Sept. 13, 2016); *Certain Wireless Standard Compliant Elec. Devices, Including Commc’n Devices & Tablet Computers*, Inv. No. 337-TA-953, Notice of Institution of Investigation at 2 (March 30, 2015).

Evolved respectfully requests that the Commission decline to delegate any additional issues related to the public interest to the Administrative Law Judge. Issuance of the requested remedial orders will protect Evolved's patent rights and its licensee's domestic market share – a directive that aligns with the policy goals of Section 337. *See Certain Baseband Processor Chips & Chipsets, Transmitting & Receiving (Radio) Chips, Power Control Chips, & Prods. Containing Same, Including Cellular Telephone Handsets*, Inv. No. 337-TA-543, Comm'n Op. at 153-54 (June 19, 2007).

Issuance of the requested remedial orders will provide effective relief in the face of ongoing and open patent infringement in the United States by the Proposed Respondents who import, sell for importation, and/or sell after importation devices that infringe any or all the patents-in-suit. The requested remedial orders would not have an adverse effect on public health and welfare in the United States, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, or United States consumers. Protecting Evolved's intellectual property rights and LGE's domestic industry investments in the United States through the requested remedial orders will accordingly serve the public interest while having little or no adverse effect on the public interest.

# **1. Explanation of how the articles potentially subject to remedial orders are used in the United States**

The accused products are the types of products commonly before the Commission and have been the subject of past remedial orders. Specifically, the accused products are mobile phones, tablet computers, and smartwatches configured to operate on an LTE network. Examples of the accused products are set forth in the accompanying Complaint. U.S. consumers use the accused products for a variety of telecommunications, internet, business, entertainment, and social media services. The accused products are imported into the United States and sold to consumers through

many channels, including the Proposed Respondents' retail stores, third party retail stores, and online outlets, including online stores run by the Proposed Respondents.

**2. The requested remedial orders do not pose any public health, safety, or welfare concerns**

There are no health, safety, or welfare concerns at issue in this investigation. The Commission has found public interest considerations to outweigh the need for remedial relief in protecting intellectual property rights in a small fraction of its investigations, for matters where an exclusion order would deprive the public of products necessary for important health and welfare needs. *See Spansion, Inc. v. Int'l Trade Comm'n*, 629 F.3d 1331, 1360 (Fed. Cir. 2010). Such concerns are not present here. The Proposed Respondents' accused products consist of personal electronic equipment. Access to such products does not implicate any conceivable public health, safety, or welfare concern. The Commission has previously found that exclusion of similar products does not raise such concerns. *See Certain Elec. Digital Media Devices & Components Thereof*, Inv. No. 337-TA-796, Comm'n Op. at 114-115 (Pub. Version) (Sept. 6, 2013). In addition, as explained below, competing products that perform similar functions as the respondents' accused products are readily available to consumers in the United States.

**3. Evolved's licensees and third-parties make like or directly competitive articles that could replace the accused products**

There are many like or directly competitive products that could replace the Proposed Respondents' infringing products once remedial orders issue. For example, if the accused products are excluded, the excluded LTE mobile phones, tablets, and smartwatches, even if they are unlocked, can be replaced with LTE mobile phones and tablets from Evolved's licensees within a commercially reasonable time frame. In addition, there are many third-party suppliers of LTE mobile phones, tablets, and smartwatches including, for example, Apple, Google, and Kyocera. Evolved's licensees, as well as third party suppliers offer their LTE mobile phones, tablets, and

smartwatches via network carriers or as unlocked, which can replace the Proposed Respondents' excluded LTE devices.

There are no public interest concerns where domestic demand for a proposed respondent's products can be met by that respondent's competitors. The presence of an adequate supply of substitute products, particularly in the electronic device market, is sufficient to override any public interest concerns. *See Digital Media Devices*, Inv. No. 337-TA-796, Comm'n Op. at 119-121; *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers & Prods. Containing Same*, Inv. No. 337-TA-661, Comm'n Op. at 14-15 (Pub. Version) (Aug. 10, 2010). On information and belief, Evolved's licensees and third-party suppliers have substantial manufacturing, production, and shipping capabilities that are adequate to replace any excluded articles in a commercially reasonable time. Additionally, the accused products, as well as the available alternative products, are all made overseas and imported into the United States for sale to consumers. Therefore, the requested remedial orders will not negatively impact the production of like or competitive articles in the United States.

#### **4. The requested remedial orders would not adversely impact consumers**

United States consumers will have available to them in the United States marketplace a wide variety of competing LTE devices. Exclusion of the Proposed Respondents' accused products will not negatively impact consumers due to increased price or reduced availability of alternative products. Even if the requested remedial orders caused minor price increases for alternative products, such an increase would not be contrary to the public interest. *See Certain Lens-Fitted Film Packages*, Inv. No. 337-TA-406, Comm'n Op. at 18. Rather, the requested relief will serve the public interest by enforcing United States intellectual property rights and by protecting the public from unfair competition.

Dated: February 1, 2021

Respectfully submitted,

/s/ Jonathan J. Engler

Jonathan J. Engler

Daniel F. Smith

Juan J. Garcia

**ADDUCI, MASTRIANI & SCHAUMBERG LLP**

1133 Connecticut Avenue, N.W., 12th Floor

Washington, D.C. 20036

Telephone: 202.467.6300

Facsimile: 202.466.2006

Email: EW-001@adduci.com

Eric M. Albritton

Barry J. Bumgardner

Andrew J. Wright

**NELSON BUMGARDNER ALBRITTON PC**

3131 West 7th Street, Suite 300

Fort Worth, Texas 76107

Telephone: 817.377.9111

Facsimile: 903.758.7397

Email: ema@nbafirm.com

barry@nbafirm.com

andrew@nbafirm.com

*Counsel for Complainant Evolved Wireless  
LLC*

**PUBLIC**

**UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.**

In the Matter of:

**CERTAIN LTE-COMPLIANT  
CELLULAR COMMUNICATION  
DEVICES**

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**Inv. No. 337-TA-\_\_\_\_\_**

**VERIFIED COMPLAINT UNDER SECTION 337  
OF THE TARIFF ACT OF 1930, AS AMENDED**

**COMPLAINANT:**

**EVOLVED WIRELESS, LLC**

900 S. Capital of Texas Highway, Suite 150  
Austin, Texas 78746  
Telephone: 512.609.1820

**COUNSEL FOR COMPLAINANT:**

Eric M. Albritton

Barry J. Bumgardner

Andrew J. Wright

**NELSON BUMGARDNER ALBRITTON P.C.**

3131 West 7th Street, Suite 300

Fort Worth, Texas 76107

Telephone: 817.901.1111

Facsimile: 817.377.3485

E-Mail: ema@nbafirm.com

barry@nbafirm.com

andrew@nbafirm.com

Jonathan J. Engler

Daniel F. Smith

Juan J. Garcia

**ADDUCI, MASTRIANI & SCHAUMBERG,  
LLP**

1133 Connecticut Avenue NW, 12th Floor

Washington, D.C. 20036

Telephone: 202.467.6300

Facsimile: 202.466.2006

E-Mail: Engler@adduci.com

DSmith@adduci.com

Garcia@adduci.com

**PROPOSED RESPONDENTS:**

**SAMSUNG ELECTRONICS CO., LTD.**

129, Samseong-Ro, Yoeongtong-Gu

Suwon-Si, Gyeonggi-Do 16677

Republic of South Korea

Telephone: +82-3-1200-0114

**SAMSUNG ELECTRONICS AMERICA, INC.**

85 Challenger Road

Ridgefield Park, NJ 07660-2118

Telephone: 201.229.4000

**MOTOROLA MOBILITY LLC**

222 W. Merchandise Mart Plaza, Suite 1800

Chicago, Illinois 60654

Telephone: 800.668.6765

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**PUBLIC****LIST OF EXHIBITS**

| <b>Exhibit</b>  | <b>Document Description</b>  |
|---|--|
| <b>Certified Copies of Asserted Patents</b>                 |  |
| 1   | Certified copy of United States Patent No. RE46,679  |
| 2   | Non-Certified copy of United States Patent No. RE48,326  |
| 3   | Certified copy of United States Patent No. 10,517,120  |
| <b>Certified Copies of Assignments for Asserted Patents</b> |  |
| 4   | Certified Assignment at Reel/Frame 018478/0395 (Assignment of '679 and '326 Patents from Inventors to LGE (Priority Document App. 11/553,939))                               |
| 5   | Certified Assignment at Reel/Frame 023095/0510 (Assignment of '120 Patent from Inventors to LGE (Priority Document App. 12/538,514))   |
| 6   | Certified Assignment at Reel/Frame 024904/0688 (Assignment of '679 and '326 Patents from Inventors to LGE (Priority Document App. 12/870,747))                               |
| 7   | Certified Assignment at Reel/Frame 028306/0899 (Assignment of '679 and '326 Patents from Inventors to LGE (Priority Document App. 13/487,081))                               |
| 8   | Certified Assignment at Reel/Frame 032343/0761 (Assignment of '679, '326, and '120 Patents from LGE to TQ Lambda)  |
| 9   | Certified Assignment at Reel/Frame 034309/0403 (Assignment of '679, '326, and '120 Patents from TQ Lambda to Evolved)  |
| <b>Patent Purchase Agreement and Related Materials</b>      |  |
| 10  | Patent Purchase Agreement between LG Electronics Co., Ltd. and TQ Lambda LLC dated February 7, 2014 ("TQ Lambda PPA")  |
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| <b>Infringement Claim Charts and Related Materials</b>      |  |
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| 17  | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Samsung Product (Samsung Galaxy Z Flip) to relevant LTE standards                       |

**PUBLIC**

| <b>Exhibit</b> | <b>Document Description</b>  |
|----------------|--|
| 18             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Samsung Product (Samsung Galaxy A50) to relevant LTE standards                          |
| 19             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Samsung Product (Samsung Galaxy A51) to relevant LTE standards                          |
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| 30             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Samsung Product (Samsung Galaxy A51) to relevant LTE standards                          |
| 31             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Samsung Product (Samsung Galaxy A71 5G) to relevant LTE standards                       |
| 32             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Samsung Product (Samsung Galaxy Tab A 10.1 (2019)) to relevant LTE standards            |

**PUBLIC**

| <b>Exhibit</b> | <b>Document Description</b>  |
|----------------|--|
| 33             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Samsung Product (Samsung Galaxy Watch3) to relevant LTE standards                         |
| 34             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Samsung Product (Samsung Galaxy S10) to relevant LTE standards                          |
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| 42             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Samsung Product (Samsung Galaxy A71 5G) to relevant LTE standards                       |
| 43             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Samsung Product (Samsung Galaxy Tab A 10.1 (2019)) to relevant LTE standards            |
| 44             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Samsung Product (Samsung Galaxy Watch3) to relevant LTE standards                       |
| 45             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Motorola Product (Motorola moto G8 Play) to relevant LTE standards                        |
| 46             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Motorola Product (Motorola moto Z4) to relevant LTE standards                             |
| 47             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Motorola Product (Motorola One Vision (International Version)) to relevant LTE standards  |
| 48             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Motorola Product (Motorola razr) to relevant LTE standards                                |

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| <b>Exhibit</b> | <b>Document Description</b>   |
|----------------|---|
| 49             | Claim chart comparing Evolved's United States Patent No. RE46,679 and Representative Motorola Product (Motorola One Action) to relevant LTE standards   |
| 50             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Motorola Product (Motorola moto G8 Play) to relevant LTE standards   |
| 51             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Motorola Product (Motorola moto Z4) to relevant LTE standards  |
| 52             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Motorola Product (Motorola One Vision (International Version)) to relevant LTE standards   |
| 53             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Motorola Product (Motorola razr) to relevant LTE standards   |
| 54             | Claim chart comparing Evolved's United States Patent No. RE48,326 and Representative Motorola Product (Motorola One Action) to relevant LTE standards   |
| 55             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Motorola Product (Motorola moto G8 Play) to relevant LTE standards   |
| 56             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Motorola Product (Motorola moto Z4) to relevant LTE standards  |
| 57             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Motorola Product (Motorola One Vision (International Version)) to relevant LTE standards   |
| 58             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Motorola Product (Motorola razr) to relevant LTE standards   |
| 59             | Claim chart comparing Evolved's United States Patent No. 10,517,120 and Representative Motorola Product (Motorola One Action) to relevant LTE standards   |
| 60             | <i>Samsung Galaxy S10 Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_s10-9536.php">http://www.gsmarena.com/samsung_galaxy_s10-9536.php</a>                     |
| 61             | <i>Samsung Galaxy S10e Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_s10e-9537.php">http://www.gsmarena.com/samsung_galaxy_s10e-9537.php</a>                  |
| 62             | <i>Samsung Galaxy S20 5G Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_s20_5g-10044.php">http://www.gsmarena.com/samsung_galaxy_s20_5g-10044.php</a>          |
| 63             | <i>Samsung Galaxy Tab S4 Full Tablet Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_tab_s4_10_5-9262.php">http://www.gsmarena.com/samsung_galaxy_tab_s4_10_5-9262.php</a> |
| 64             | <i>Samsung Galaxy Watch Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_watch-9289.php">http://www.gsmarena.com/samsung_galaxy_watch-9289.php</a>               |
| 65             | <i>Samsung Galaxy Z Flip Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_z-flip-10054.php">http://www.gsmarena.com/samsung_galaxy_z-flip-10054.php</a>          |
| 66             | <i>Samsung Galaxy A50 Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_a50-9554.php">http://www.gsmarena.com/samsung_galaxy_a50-9554.php</a>                     |
| 67             | <i>Samsung Galaxy A51 Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_a51-9963.php">http://www.gsmarena.com/samsung_galaxy_a51-9963.php</a>                     |

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| <b>Exhibit</b>                     | <b>Document Description</b>   |
|------------------------------------|---|
| 68                                 | <i>Samsung Galaxy A71 5G Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_a71_5g-10146.php">http://www.gsmarena.com/samsung_galaxy_a71_5g-10146.php</a>  |
| 69                                 | <i>Samsung Galaxy Tab A 10.1 (2019) Full Tablet Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_tab_a_10_1_(2019)-9582.php">http://www.gsmarena.com/samsung_galaxy_tab_a_10_1_(2019)-9582.php</a>  |
| 70                                 | <i>Samsung Galaxy Watch3 Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/samsung_galaxy_watch3-10315.php">http://www.gsmarena.com/samsung_galaxy_watch3-10315.php</a>  |
| 71                                 | <i>Motorola Moto G8 Play Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/motorola_moto_g8_play-9918.php">http://www.gsmarena.com/motorola_moto_g8_play-9918.php</a>  |
| 72                                 | <i>Motorola Moto z4 Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/motorola_moto_z4-9691.php">http://www.gsmarena.com/motorola_moto_z4-9691.php</a>   |
| 73                                 | <i>Motorola One Vision Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/motorola_one_vision-9647.php">http://www.gsmarena.com/motorola_one_vision-9647.php</a>  |
| 74                                 | <i>Motorola razr Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/motorola_razr_2019-9630.php">http://www.gsmarena.com/motorola_razr_2019-9630.php</a>  |
| 75                                 | <i>Motorola One Action Full Phone Specifications</i> , GSM Arena, available at <a href="http://www.gsmarena.com/motorola_one_action-9739.php">http://www.gsmarena.com/motorola_one_action-9739.php</a>  |
| 76                                 | <i>Samsung Galaxy S10</i> , Qualcomm, available at <a href="https://www.qualcomm.com/snapdragon/smartphones/samsung-galaxy-s10">https://www.qualcomm.com/snapdragon/smartphones/samsung-galaxy-s10</a>  |
| 77                                 | <i>Samsung Galaxy S20 5G</i> , Qualcomm, available at <a href="https://www.qualcomm.com/snapdragon/samsung-galaxy-s20-5g">https://www.qualcomm.com/snapdragon/samsung-galaxy-s20-5g</a>   |
| 78                                 | <i>Samsung Galaxy Tab S4</i> , Qualcomm, available at <a href="https://www.qualcomm.com/snapdragon/tablets/samsung-galaxy-tab-s4">https://www.qualcomm.com/snapdragon/tablets/samsung-galaxy-tab-s4</a>   |
| 79                                 | <i>Samsung Galaxy Z Flip</i> , Qualcomm, available at <a href="https://www.qualcomm.com/snapdragon/samsung-galaxy-z-flip">https://www.qualcomm.com/snapdragon/samsung-galaxy-z-flip</a>   |
| 80                                 | <i>Smartphones with Exynos Processors</i> , Samsung, available at <a href="https://www.samsung.com/semiconductor/minisite/exynos/showcase/smartphone">https://www.samsung.com/semiconductor/minisite/exynos/showcase/smartphone</a>   |
| 81                                 | <i>Tablet Devices with Exynos Processors</i> , Samsung, available at <a href="https://www.samsung.com/semiconductor/minisite/exynos/showcase/tablets">https://www.samsung.com/semiconductor/minisite/exynos/showcase/tablets</a>  |
| 82                                 | <i>Smartwatches with Exynos Processors</i> , Samsung, available at <a href="https://www.samsung.com/semiconductor/minisite/exynos/showcase/smartwatches">https://www.samsung.com/semiconductor/minisite/exynos/showcase/smartwatches</a>  |
| 83                                 | Screen shot from Samsung.com page directing user to purchase Samsung Galaxy A50 (Unlocked) from Amazon.com  |
| 84                                 | Samsung Electronics America, Inc., <i>Buyer Beware of Purchases made from Unauthorized Samsung Resellers</i> , available at <a href="http://www.pcrichard.com/images/promos/Buyer_Beware_Samsung-04-01.pdf">http://www.pcrichard.com/images/promos/Buyer_Beware_Samsung-04-01.pdf</a> |
| 85                                 | Samsung, <i>Samsung's Authorized Reseller Benefits Program</i> , available at <a href="http://www.samsung.com/us/peaceofmind/authorized_resellers.html">http://www.samsung.com/us/peaceofmind/authorized_resellers.html</a>   |
| 86                                 | Amazon.com Samsung Store  |
| 87                                 | Amazon.com Motorola Store   |
| 88                                 | Declaration of Jeremy Miller, Paralegal, Adduci, Mastriani & Schaumberg LLP   |
| <b>Standards Related Materials</b> |   |
| 89                                 | 3GPP TR 21.905 V9.3.0 (2009-09), 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Vocabulary for 3GPP Specifications (Release 9)  |



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| <b>Exhibit</b> | <b>Document Description</b>  |
|----------------|--|
| 90             | 3GPP TS 36.211 V8.9.0 (2009-12), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical Channels and Modulation (Release 8)   |
| 91             | 3GPP TS 36.212 V9.2.0 (2010-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Multiplexing and channel coding (Release 9)  |
| 92             | 3GPP TS 36.213 V9.2.0 (2010-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures (Release 9)  |
| 93             | 3GPP TS 36.300 V8.10.0 (2009-09), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2 (Release 8) |
| 94             | 3GPP TS 36.300 V9.4.0 (2010-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2 (Release 9)  |
| 95             | 3GPP TS 36.321 V9.3.0 (2010-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Medium Access Control (MAC) protocol specification (Release 9)   |
| 96             | 3GPP TS 36.331 V8.10.0 (2010-06), 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 8)  |
| 97             | ETSI Rules of Procedure, Annex 6: ETSI Intellectual Property Rights Policy (2014), <i>available at</i> <a href="http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf">http://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf</a>   |
| 98             | 3GPP TSG-RAN WG2 Meeting #53, R2-061552, “Discussion on Initial Access to LTE Cell” (Shanghai, China May 8–12, 2006)   |
| 99             | 3GPP TSG-RAN WG2 Meeting #54, R2-062314, “Draft2 minutes of the 53rd TSG-RAN WG2 meeting (Shanghai, 08-12 May 2006)” (Tallin, Estonia Aug. 28 – Sept. 1, 2006)   |
| 100            | 3GPP TSG-RAN WG2 Meeting #54, R2-062316, “Draft2 minutes RAN2 UTRA/UTRAN Long Term Evolution Ad-hoc (Cannes, 27-30 June 2006)” (Tallin, Estonia Aug. 28 – Sept. 1, 2006 )  |
| 101            | 3GPP TSG-RAN WG2 Meeting #55, R2-062809, “non-contention based handover procedure on RACH channel” (Seoul, South Korea Oct. 9–13, 2006)  |
| 102            | 3GPP TSG-RAN WG2 Meeting #55, R2-062886, “Less-contention-based handover” (Seoul, South Korea Oct. 9–13, 2006)   |
| 103            | 3GPP TSG-RAN WG2 Meeting #55, R2-062996, “Draft4 minutes of the 54th TSG-RAN WG2 meeting (Tallin, Estonia, 28 Aug – 01 Sep 2006)” (Seoul, South Korea Oct. 9–13, 2006)   |
| 104            | 3GPP TSG-RAN WG2 Meeting #56, R2-063339, “Draft2 minutes of the 55th TSG-RAN WG2 meeting (Seoul, Korea, 09-13 October 2006)” (Riga, Latvia, Nov. 6–10, 2006)   |

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| <b>Exhibit</b> | <b>Document Description</b>   |
|----------------|---|
| 105            | 3GPP TSG-RAN WG2 Meeting #56, R2-063556, “[DRAFT] LS on Synchronization at handover” (Riga, Latvia, Nov. 6–10, 2006)  |
| 106            | 3GPP TSG-RAN WG2 Meeting #56bis, R2-070341, “Draft3 minutes of the 56th TSG-RAN WG2 meeting (Riga, Latvia, 06-10 November 2006)” (Sorrento, Italy Jan. 15–19, 2007)     |
| 107            | 3GPP TSG-RAN WG2 Meeting #57, R2-070687, “Use of dedicated RACH signatures” (St. Louis, USA Feb. 12–16, 2007)   |
| 108            | 3GPP TSG-RAN WG2 Meeting #57, R2-070896, “Draft2 minutes of the 56bis TSG-RAN WG2 meeting (Sorrento, Italy 15-19 Jan 2007)” (Sorrento, Italy Jan. 15–19, 2007)          |
| 109            | 3GPP TSG-RAN WG2 Meeting #57bis, R2-071151 “Draft1 minutes of the 57 TSG-RAN WG2 meeting (Saint Louis, USA 12-16 February 2007)” (St. Julian’s, Malta Mar. 26–30, 2007) |
| 110            | 3GPP TSG-RAN WG2 Meeting #57bis, R2-071455, “Use of dedicated RACH signatures” (St. Julian’s, Malta Mar. 26–30, 2007)   |
| 111            | 3GPP TSG-RAN WG2 Meeting #58, R2-072084, “Management of Dedicated Signatures” (Kobe, Japan May 7–11, 2007)  |
| 112            | 3GPP TSG-RAN WG2 Meeting #58, R2-072131, “Draft(1) minutes of the 57bis TSG-RAN WG2 meeting (Malta, 26-30 March 2007)” (Kobe, Japan May 7–11, 2007)                     |
| 113            | 3GPP TSG-RAN WG2 Meeting #58bis, R2-072792, “RACH Preamble Reservation for Handover” (Orlando, Florida USA June 25–29, 2007)  |
| 114            | 3GPP TSG-RAN WG2 Meeting #58bis, R2-072901, “Draft2 minutes of the 58th TSG-RAN WG2 meeting (Kobe, Japan, 07-11 May 2007)” (Orlando, Florida USA June 25–29, 2007)      |
| 115            | 3GPP TSG-RAN WG2 Meeting #59, R2-073623, “Draft2 minutes of the 58bis TSG-RAN WG2 meeting (Orlando, USA, 25-29 June 2007)” (Athens, Greece Aug. 20–24, 2007)            |
| 116            | 3GPP TSG-RAN WG2 Meeting #59, R2-073863, 36.300 Change Request 0004 (Athens, Greece June 20–24, 2007)   |
| 117            | 3GPP TSG-RAN WG2 Meeting #59bis, R2-074444, “Draft3 minutes of the 59 TSG-RAN WG2 meeting (Athens, Greece, 25-29 June 2007)” (Shanghai, China Oct. 8–12, 2007).         |
| 118            | 3GPP TSG-RAG WG2 Meeting #37, RP-070637, “TS 36.400 Rel-8 CRs” (Riga, Latvia Sept. 11–14, 2007)   |
| 119            | 3GPP, RP-071002, “Draft4 Minutes of the 37th 3GPP TSG RAN meeting (Riga, Latvia, 11-14 September 2007)” (Sept. 23, 2007)  |
| 120            | IPR Information Statement and Licensing Declaration (April 12, 2010)  |
| 121            | 3GPP TSG-RAN WG2 Meeting #63, R2-084387, “Handling of Received UL Grant in RA procedure” (Jeju, South Korea Aug. 18–22, 2008)   |
| 122            | 3GPP TSG-RAN WG2 Meeting #63, R2-084388, 36.321 Change Request (Jeju, South Korea Aug. 18–22, 2008)   |
| 123            | 3GPP TSG-RAN WG2 Meeting #63bis, R2-085833, 36.321 Change Request (Prague, Czech Republic Sept. 29 – Oct. 3, 2008)  |



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| <b>Exhibit</b>  | <b>Document Description</b>  |
|---|--|
| 124   | 3GPP TSG-RAN WG2 Meeting #64, R2-086126, 36.321 Change Request 0136 (Prague, Czech Republic Nov. 10–14, 2008)  |
| 125   | 3GPP TSG-RAN WG2 Meeting #64, R2-087432, Report of 3GPP TSG RAN WG2 meeting #63bis, Prague, Czech Republic, September 29 – October 03, 2008” (Prague, Czech Republic Nov. 10–14, 2008)   |
| 126   | 3GPP TSG-RAN WG2 Meeting #42, RP-081018, “REL-8 CRs for LTE to TS 36.321 MAC” (Athens, Greece Dec. 2–5, 2008)  |
| 127   | 3GPP, RP-090008, “Draft Minutes (V04) of the 42nd 3GPP TSG RAN meeting (Athens, Greece, 02 – 05 December 2008)” (Dec. 18, 2008)  |
| 128   | IPR Information Statement and Licensing Declaration (August 31, 2009)  |
| <b>Domestic Industry Claim Charts and Related Materials</b> |  |
| 129   | Claim chart comparing Evolved’s United States Patent No. RE46,679 and Representative LGE DI Product (LG G8X ThinQ) to relevant LTE standards   |
| 130   | Claim chart comparing Evolved’s United States Patent No. RE48,326 and Representative LGE DI Product (LG G8X ThinQ) to relevant LTE standards   |
| 131   | Claim chart comparing Evolved’s United States Patent No. 10,517,120 and Representative LGE DI Product (LG G8X ThinQ) to relevant LTE standards   |
| 132   | <i>LG G8X ThinQ Full Phone Specifications</i> , GSM Arena, <i>available at</i> <a href="http://www.gsmarena.com/lg_g8x_thinq-9844.php">http://www.gsmarena.com/lg_g8x_thinq-9844.php</a>   |
| 133   | <i>LG Mobile Phones: Browse LG Dual Screen™ Phones, 5G Smartphones &amp; More</i> , LG USA, <i>available at</i> <a href="https://www.lg.com/us/cell-phones">https://www.lg.com/us/cell-phones</a>  |
| 134   | <i>LG Tablets: All-in-One HD Android Tablets</i> , LG USA, <i>available at</i> <a href="https://www.lg.com/us/tablets">https://www.lg.com/us/tablets</a>   |
| 135   | LGE’s Virtual Marking Webpage, <i>available at</i> <a href="https://www.lg.com/patents">https://www.lg.com/patents</a>   |
| 136   | Letter attaching Verified Complaint of LG Electronics, Inc., LG Electronics Alabama, Inc., and LG Electronics MobileComm U.S.A., Inc. in Inv. No. 337-TA-1051 (March 27, 2017)   |
| 137   | <i>In the Matter of Certain LTE Wireless Communication Devices and Components Thereof</i> , Inv. No. 337-TA-1051, Exhibit 58: Domestic Industry Investments Related to the Asserted Patents (redacted)   |
| 138   | LG Electronics Consolidated Financial Statements, December 31, 2018 and 2017   |
| 139   | LG Electronics Consolidated Financial Statements, December 31, 2019 and 2018   |
| 140   | Fernandez, Celia, “The Retail Market for Smartphones in the U.S.,” IBISWorld Industry Report OD6131 (January 2020)   |
| 141   | DNB Hoover’s Report, <i>available at</i> <a href="https://www.dnb.com/business-directory/company-profiles.lg_electronics_alabama_inc.37dcca3328e80335a31991535ad19114.html">https://www.dnb.com/business-directory/company-profiles.lg_electronics_alabama_inc.37dcca3328e80335a31991535ad19114.html</a> (last accessed August 24, 2020)   |
| 142   | Huntsville Madison County Chamber, “LG Electronics USA wins #1 rating in overall customer satisfaction, a source of pride for Huntsville service team,” October 10, 2019, <i>available at</i> <a href="https://hsvchamber.org/lg-electronics-usa-wins-1-rating-in-overall-customer-satisfaction-a-source-of-pride-for-huntsville-service-team/">https://hsvchamber.org/lg-electronics-usa-wins-1-rating-in-overall-customer-satisfaction-a-source-of-pride-for-huntsville-service-team/</a> (last accessed August 25, 2020). |
| 143   | San Diego County Tax Assessor information for LG Electronics USA Inc. (2019-2020)  |

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| <b>Exhibit</b>  | <b>Document Description</b>  |
|---|--|
| 144   | State of Delaware Certificate of Ownership and Merger: Subsidiary into Parent – Section 253, merging LG Electronics MobileComm U.S.A., Inc. into LG Electronics U.S.A., Inc. |
| 145   | Office of the Secretary of State of Texas, Corporations Section, Application for Certificate of Authority, LG Electronics Alabama Inc. (April 5, 2000)                       |
| 146   | Tax Assessor for Madison County, Alabama, Assessment and Appraisal Link for Parcel 16-09-30-0-000-044.000, Tax Year 2019   |
| 147   | LG Electronics Mobile Research Job Posting, <i>Software Engineer – Contract (Bilingual English/Korean)</i> , LinkedIn.com (last accessed September 16, 2020)                 |
| 148   | LG Job Posting, <i>Staff Software Engineer (GSM 4G LTE RF) – Bilingual Korean</i> , Pipeline.com (August 20, 2020) (last accessed September 16, 2020)                        |
| 149   | Linkedin profile for Amy LeBon-Van Fleet, District Service Manager, LG Electronics (LGEAI), Rancho Cucamonga, California   |
| 150   | Linkedin profile for Barbara Cole, Senior Recruiter at LG Electronics, Huntsville, Alabama   |
| 151   | Linkedin profile for Caleb Clem, Senior Director, Field Services at LG Electronics, Huntsville, Alabama  |
| 152   | Linkedin profile for David Esmerio, Operations Supervisor at LG Electronics, Greater Los Angeles Area  |
| 153   | Linkedin profile for Hae Hyeong (Johann) Park, Senior Staff Software Engineer for LG Electronics, Morristown, New Jersey   |
| 154   | Linkedin profile for JinHo Lee, Technical Project Management at LG Electronics Mobile Research, Leawood, Kansas  |
| 155   | Linkedin profile for Joseph Buttermilk, District Service Manager at LG Electronics (LGEAI), Dallas/Fort Worth, Texas   |
| 156   | Linkedin profile for Joy Craig, Assistant Manager at LG Electronics, Meridianville, Alabama  |
| 157   | Linkedin profile for Larry Fullone, Senior Engineer / Senior Manager at LG Electronics, Huntsville, Alabama  |
| 158   | Linkedin profile for Mahesh Javvaji, Field Engineer II at LG Electronics, Overland Park, Kansas  |
| 159   | Linkedin profile for Sungjin Kim, Test Engineer at LG Electronics Mobile R&D, Los Angeles, California  |
| 160   | Linkedin profile for Yangmoon Park, Field Engineer at LG Electronics, New Brunswick, New Jersey  |
| 161   | Linkedin profile for Yongseung Lee, LG Electronics Senior Research Engineer, Greater Seattle Area, Washington  |
| 162C  | Declaration of [REDACTED] (LG Electronics U.S.A., Inc.) – <b>CONFIDENTIAL</b>  |
| 162   | Redacted Copy of Declaration of [REDACTED] (LG Electronics U.S.A., Inc.) – <b>PUBLIC VERSION</b>   |
| <b>Receipts, Photographs, and Evidence of Importation</b> |  |
| 163   | Purchase receipt for Representative Samsung Product (Samsung Galaxy S10), Samsung.com order #D1EJFSK0BM (January 8, 2020)  |
| 164   | Purchase receipt for Representative Samsung Product (Samsung Galaxy S10), Samsung.com order #D1F7DB40T0 (January 21, 2020)   |

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| <b>Exhibit</b> | <b>Document Description</b>  |
|----------------|--|
| 165            | Purchase receipt for Representative Samsung Product (Samsung Galaxy S10e (International Version)), Amazon.com order #113-2534574-5152243 (January 10, 2020)    |
| 166            | Purchase receipt for Representative Samsung Product (Samsung Galaxy S10e (International Version)), Amazon.com order #114-7817869-7049821 (January 7, 2020)     |
| 167            | Purchase receipt for Representative Samsung Product (Samsung Galaxy S20 5G), Samsung.com order #US364439354 (March 4, 2020)                                    |
| 168            | Purchase receipt for Representative Samsung Product (Samsung Galaxy S20 5G), Samsung.com order #US364101317 (March 4, 2020)                                    |
| 169            | Purchase receipt for Representative Samsung Product (Samsung Galaxy S20 5G), Samsung.com order #US052776447 (January 5, 2021)                                  |
| 170            | Purchase receipt for Representative Samsung Products (Samsung Galaxy Tab S4 and Samsung Galaxy Watch), bestbuy.com order #BBY01-805684307889 (January 3, 2020) |
| 171            | Purchase receipt for Representative Samsung Products (Samsung Galaxy Tab S4 and Samsung Galaxy Watch), bestbuy.com order #BBY01-805685160407 (January 8, 2020) |
| 172            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Tab S4), Amazon.com order #113-7132054-7267434 (January 3, 2020)                           |
| 173            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Tab S4), Amazon.com order #113-0457504-6859434 (January 10, 2020)                          |
| 174            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Watch), BestBuy.com order #BBY01-806410064430 (January 5, 2021)                            |
| 175            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Z Flip), Samsung.com order #US302602374 (March 5, 2020)                                    |
| 176            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Z Flip), Samsung.com order #US502203488 (March 5, 2020)                                    |
| 177            | Purchase receipt for Representative Samsung Product (Samsung Galaxy A50 (Unlocked)), Amazon.com order #111-1978931-8889038 (September 11, 2020)                |
| 178            | Purchase receipt for Representative Samsung Product (Samsung Galaxy A51 (Unlocked)), Samsung.com order #US153124769 (September 11, 2020)                       |
| 179            | Purchase receipt for Representative Samsung Product (Samsung Galaxy A71 5G (Unlocked)), Samsung.com order #US359548537 (September 11, 2020)                    |
| 180            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Tab A 10.1 (2019)), Samsung.com order #567056340 (September 24, 2020)                      |
| 181            | Purchase receipt for Representative Samsung Product (Samsung Galaxy Watch3), Samsung.com order #US007997602 (September 28, 2020)                               |
| 182            | Purchase receipt for Representative Motorola Products (Motorola moto G8 Play), Amazon.com order #113-5029245-9172217 (June 1, 2020)                            |
| 183            | Purchase receipt for Representative Motorola Product (Motorola moto G8 Play), Walmart.com order #2982197-655750 (January 27, 2021)                             |
| 184            | Purchase receipt for Representative Motorola Product (Motorola moto Z4), Motorola.com order #US00001437500 (January 3, 2020)                                   |

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| <b>Exhibit</b> | <b>Document Description</b>  |
|----------------|--|
| 185            | Purchase receipt for Representative Motorola Product (Motorola moto Z4), Motorola.com order #US00001438834 (January 8, 2020)                                 |
| 186            | Purchase receipt for Representative Motorola Product (Motorola One Vision (International Version)), Amazon.com order #114-0619467-2421005 (January 7, 2020)  |
| 187            | Purchase receipt for Representative Motorola Product (Motorola One Vision (International Version)), Amazon.com order #113-1650010-2767466 (January 10, 2020) |
| 188            | Purchase receipt for Representative Motorola Product (Motorola One Vision), Amazon.com order #111-6753762-1563404 (January 5, 2021)                          |
| 189            | Purchase receipt for Representative Motorola Product (Motorola razr), Motorola.com order #1015501158888-01 (March 5, 2020)                                   |
| 190            | Purchase receipt for Representative Motorola Product (Motorola razr), Motorola.com order #1101122499039-01 (January 5, 2021)                                 |
| 191            | Purchase receipt for Representative Motorola Product (Motorola One Action), Motorola.com order #1061870675890-01 (September 14, 2020)                        |
| 192            | Purchase receipt for Representative LGE DI Product (LG G8X ThinQ), LG.com order #2000161152 (April 4, 2020)  |
| 193            | Photographs of shipping label and product packaging label for Representative Samsung Product referenced at Exhibit 163 (Samsung Galaxy S10)                  |
| 194            | Photographs of Representative Samsung Product referenced at Exhibit 164 (Samsung Galaxy S10)   |
| 195            | Photographs of shipping label and product packaging label for Representative Samsung Product referenced at Exhibit 165 (Samsung Galaxy S10e)                 |
| 196            | Photographs of Representative Samsung Product referenced at Exhibit 166 (Samsung Galaxy S10e (International Version))  |
| 197            | Photographs of Representative Samsung Product referenced at Exhibit 167 (Samsung Galaxy S20 5G)  |
| 198            | Photographs of Representative Samsung Product referenced at Exhibit 168 (Samsung Galaxy S20 5G)  |
| 199            | Photographs of Representative Samsung Product referenced at Exhibit 169 (Samsung Galaxy S20 5G)  |
| 200            | Photographs of Representative Samsung Product referenced at Exhibit 170 (Samsung Galaxy Tab S4)  |
| 201            | Photographs of shipping label and product packaging label for Representative Samsung Product referenced at Exhibit 171 (Samsung Galaxy Tab S4)               |
| 202            | Photographs of Representative Samsung Product referenced at Exhibit 172 (Samsung Galaxy Tab S4)  |
| 203            | Photographs of shipping label and product packaging label for Representative Samsung Product referenced at Exhibit 173 (Samsung Galaxy Tab S4)               |
| 204            | Photographs of Representative Samsung Product referenced at Exhibit 170 (Samsung Galaxy Watch)   |
| 205            | Photographs of shipping label and product packaging label for Representative Samsung Product referenced at Exhibit 171 (Samsung Galaxy Watch)                |

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| <b>Exhibit</b>  | <b>Document Description</b>   |
|---|---|
| 206   | Photographs of Representative Samsung Product referenced at Exhibit 174 (Samsung Galaxy Watch)  |
| 207   | Photographs of Representative Samsung Product referenced at Exhibit 175 (Samsung Galaxy Z Flip)   |
| 208   | Photographs of Representative Samsung Product referenced at Exhibit 176 (Samsung Galaxy Z Flip)   |
| 209   | Photographs of Representative Samsung Product referenced at Exhibit 177 (Samsung Galaxy A50 (Unlocked))   |
| 210   | Photographs of Representative Samsung Product referenced at Exhibit 178 (Samsung Galaxy A51 (Unlocked))   |
| 211   | Photographs of Representative Samsung Product referenced at Exhibit 179 (Samsung Galaxy A71 5G (Unlocked))  |
| 212   | Photographs of Representative Samsung Product referenced at Exhibit 180 (Samsung Galaxy Tab A 10.1 (2019))  |
| 213   | Photographs of Representative Samsung Product referenced at Exhibit 181 (Samsung Galaxy Watch3)   |
| 214   | Photographs of Representative Motorola Product referenced at Exhibit 182 (Motorola moto G8 Play)  |
| 215   | Photographs of Representative Motorola Product referenced at Exhibit 183 (Motorola Moto G8 Play)  |
| 216   | Photographs of shipping label and product packaging label for Representative Motorola Product referenced at Exhibit 184 (Motorola moto Z4)                            |
| 217   | Photographs of Representative Motorola Product referenced at Exhibit 185 (Motorola moto Z4)   |
| 218   | Photographs of Representative Motorola Product referenced at Exhibit 186 (Motorola One Vision (International Version))  |
| 219   | Photographs of shipping label and product packaging label for Representative Motorola Product referenced at Exhibit 187 (Motorola One Vision (International Version)) |
| 220   | Photographs of Representative Motorola Product referenced at Exhibit 188 (Motorola One Vision)  |
| 221   | Photographs of Representative Motorola Product referenced at Exhibit 189 (Motorola razr)  |
| 222   | Photographs of Representative Motorola Product referenced at Exhibit 190 (Motorola razr)  |
| 223   | Photographs of Representative Motorola Product referenced at Exhibit 191 (Motorola One Action)  |
| 224   | Photographs of Representative LGE DI Product referenced at Exhibit 192 (LG G8X ThinQ)   |
| <b>Identification of Licensees and Negotiations Related Materials</b> |   |
| 225   | 2018.09.21 Letter from Matthew DelGiorno (Evolved) to Indong Kang (Samsung) with Attachments  |
| 226   | 2018.09.21 Letter from Matthew DelGiorno (Evolved) to Kathryn Tsirigotis (Lenovo, parent of Motorola) with Attachments  |

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| <b>Exhibit</b>               | <b>Document Description</b>   |
|------------------------------|---|
| <b>Other Cited Materials</b> |   |
| 227                          | Opinion, <i>Evolved Wireless, LLC v. HTC Corporation, et al.</i> , Appeal Nos. 20-1335, -1337, -1339, -1340, -1363, Dkt. No. 84 (Fed. Cir. Jan. 26, 2021) |
| 228C                         | [REDACTED] – <b>CONFIDENTIAL</b>  |
| 228                          | Redacted Copy of [REDACTED] – <b>PUBLIC VERSION</b>   |

**PUBLIC****LIST OF APPENDICES**

| <b>Appendix</b> | <b>Document Description</b>  |
|-----------------|--|
| A1              | Certified copy of the prosecution history of United States Patent No. RE46,679               |
| B1              | Non-Certified copy of the prosecution history of United States Patent No. RE48,326           |
| C1              | Certified copy of the prosecution history of United States Patent No. 10,517,120             |
| A2              | Copies of references cited in the prosecution history of United States Patent No. RE46,679   |
| B2              | Copies of references cited in the prosecution history of United States Patent No. RE48,326   |
| C2              | Copies of references cited in the prosecution history of United States Patent No. 10,517,120 |



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**I. INTRODUCTION**

1. Complainant Evolved Wireless, LLC (“Evolved” or “Complainant”) files this Verified Complaint claiming violations of Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“Section 337”) and respectfully requests that the United States International Trade Commission (“ITC”) institute an investigation and grant relief to remedy the unlawful importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of certain LTE<sup>1</sup>-compliant cellular communication devices (“Accused Products”) by proposed Respondents: Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Motorola Mobility LLC (collectively, “Respondents”). The proposed Respondents’ infringing products include personal electronic devices that are compliant with the LTE specifications, including but not limited to LTE-compliant cellular phones, tablet computers, and/or smartwatches that infringe the asserted claims of the valid and enforceable United States patents owned by Evolved.

2. As discussed herein, the Respondents are engaged in unlawful and unfair acts of competition in violation of Section 337(a)(1)(B) by importing into the United States, selling for importation into the United States, and/or selling in the United States after importation certain LTE-compliant cellular communication devices, including cellular phones, tablets, and/or smartwatches that infringe one or more valid claims of the following patents: United States Patent Numbers (1) RE46,679 (“the ’679 Patent”); (2) RE48,326 (“the ’326 Patent”); and (3) 10,517,120 (“the ’120 Patent”) (collectively, the “Asserted Patents”).

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<sup>1</sup> As used herein, “LTE” also includes LTE+, which is also referred to as “LTE-Advanced.”



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3. As stated above and set forth in further detail herein, all of the Respondents' Accused Products directly and/or indirectly infringe, literally and/or under the doctrine of equivalents, at least the following claims (the "Asserted Claims"):

| <b>Patent</b> | <b>Asserted Claims<sup>2</sup></b> |
|---------------|------------------------------------|
| RE46,679      | <b><u>6</u></b> , 8                |
| RE48,326      | <b><u>18</u></b> , 19, 20          |
| 10,517,120    | <b><u>12</u></b> , 16, 17, 18      |

*See infra*, ¶¶ 89–101.

4. The Accused Products are imported into the United States, sold for importation into the United States, and/or sold in the United States after importation by or on behalf of the Respondents. The Accused Products are imported into the United States and sold to consumers through many channels, including the Respondents' retail stores, third-party retail stores, and online outlets, including online stores operated by Respondents. Upon information and belief, Respondents authorize the importation and/or sale after importation of Accused Products through Amazon.com. For example, on its website, Samsung directs customers to third-party sites such as Amazon.com to purchase certain of the Accused Products. *See* **Exhibit 83**. Additionally, Samsung identifies third parties such as Amazon.com as authorized resellers of its products. *See* **Exhibits 84–85**. Both Samsung and Motorola maintain seller stores on Amazon.com from which customers can purchase Accused Products. *See* **Exhibits 86–87**.

5. Respondents' activities with respect to importation into the United States, sales for importation into the United States, and/or sale within the United States after importation of the

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<sup>2</sup> Bold-faced, underlined numbers represent independent claims.

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Accused Products are unlawful under Section 337(a)(1)(B)(i) in that they constitute the infringement of one or more valid and enforceable claims of the Asserted Patents.

6. An industry exists in the United States relating to the articles protected by the Asserted Patents, as required by Sections 337(a)(1)(B) and (a)(2)–(3). This United States industry exists based on the activities and investments of Evolved’s licensee, LG Electronics Inc. (“LGE”) and its similarly licensed subsidiaries, including LG Electronics U.S.A., Inc. (“LGUSA”), a Delaware corporation with a principal place of business at 1000 Sylvan Avenue, Englewood Cliffs, New Jersey 07632 (collectively, “LGE”). Specifically, an industry exists in the United States relating to LGE’s LTE-compliant cellular communication devices including cellular phones and tablets that practice at least one valid claim of each of Evolved’s Asserted Patents. LGE designs, develops, tests, and supports products in the United States that it sells primarily to U.S. consumers. Upon information and belief, the United States industry is further supported by LGE’s significant domestic investment in plant, equipment, labor, and capital, and substantial domestic investments in engineering, research, and development in connection with licensed devices and activities protected by the Asserted Patents, including for example design, engineering, research, development, manufacturing, testing, quality control, packaging, compliance, product support, service, warranty, repair, and distribution.

7. Evolved is the owner of all substantial rights, including the right to bring suit of protectable patent rights (including the Asserted Patents) as described herein. Evolved seeks a limited exclusion order pursuant to Section 337(d)(1) to prohibit Respondents from importing into the United States, selling for importation into the United States, and/or selling in the United States after importation LTE-compliant cellular communication devices, including cellular phones, tablets, and/or smartwatches that infringe one or more valid claims of the Asserted Patents.

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Evolved also seeks permanent cease and desist orders pursuant to Section 337(f), directing Respondents to cease and desist from the importation, marketing, advertising, demonstrating, installing, testing, servicing, repairing, warehousing, inventorying, and related activities of such Accused Products, for distribution, sale, and/or use in the United States except under license of Evolved or as provided by law. Evolved seeks the imposition of a bond on importation and sales of infringing devices during the 60-day Presidential review period pursuant to Section 337(j).

**II. THE PARTIES**

**A. Complainant**

**1. Evolved Wireless**

8. Evolved is a limited liability company organized and existing under the laws of the State of Delaware and having a principal place of business at 805 Las Cimas Parkway, Suite 240, Austin, Texas 78746.

9. Evolved is a technology innovation and licensing company focused on the wireless communications industry. Evolved's patent portfolio relates to telecommunications standards, including LTE, and represents both organic assets and externally sourced assets. In addition to licensing its patent portfolio, Evolved offers development, licensing, and commercialization services to owners of intellectual property in the field of wireless communications.

10. Evolved owns, through assignments originating with LGE, a patent portfolio related to mobile telecommunications and cellular technology (the "Evolved Portfolio"), including but not limited to LTE-compliant cellular communication devices and components thereof. LGE is a South Korean corporation with its principal place of business at LG Twin Towers 20, Yeouido-dong, Yrongsdeungpo-Gu, Seoul, South Korea 150-721. LGE also has wholly owned U.S. subsidiaries, including LGUSA. LGE was founded in 1958 and is a worldwide leader in the design, development, and manufacture of consumer electronics and home appliances. LGE has made

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critical advances in electronic data transmissions and mobile communications over the years. Several of LGE's technological advances are embodied in Evolved's Asserted Patents.

11. The Evolved Portfolio was assigned to TQ Lambda LLC ("TQ Lambda") via a patent purchase agreement dated February 7, 2014, a copy of which is attached hereto as **Exhibit 10** ("TQ Lambda PPA"). TQ Lambda and Evolved (which is a wholly owned subsidiary of TQ Lambda) executed a Contribution Agreement on September 1, 2014 ("Evolved CA"), by which TQ Lambda agreed to assign the Evolved Portfolio to Evolved. A copy of the Evolved CA is attached as **Exhibit 11**. Pursuant to the Evolved CA, TQ Lambda assigned and transferred all substantial rights in and to the Evolved Portfolio to Evolved via a Patent Assignment dated September 26, 2014 ("Evolved Assignment"). A copy of the Evolved Assignment is attached hereto as **Exhibit 9**.

12. Evolved is the owner of all right, title, and interest in the Asserted Patents.

**2. Evolved's Licensee**

13. Pursuant to the TQ Lambda PPA, LGE and its affiliates retain a license to the Evolved Portfolio and are fully licensed to practice each of the Asserted Patents. *See* **Exhibit 10** at § 4.3.

14. LGE's United States subsidiaries, including LGUSA, operate facilities throughout the United States and have invested significant resources into domestic research, design, quality control, testing, and technical support for the products that embody the Asserted Patents.

**B. Proposed Respondents**

15. Upon information and belief, the Respondents include manufacturers, importers, distributors, and/or retail companies, including agents of the foregoing, that import into the United States, sell for importation into the United States, and/or sell within the United States after

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importation LTE-compliant cellular communication devices including cellular phones, tablets, and/or smartwatches that infringe one or more valid claims of the Asserted Patents.

**1. Samsung**

16. Upon information and belief, Respondent Samsung Electronics Co., Ltd. is a multinational corporation organized and existing under the laws of the Republic of Korea, with its principal place of business at 129 Samseong-Ro, Yoeongtong-Gu, Suwon-Si, Gyeonggi-Do 16677, South Korea. *See Certain Capacitive Touch-Controlled Mobile Devices, Computers, & Components Thereof*, Inv. No. 337-TA-1193, Samsung's Response to Complaint at ¶ 38 (Apr. 20, 2020). Samsung Electronics Co., Ltd. has several wholly owned subsidiaries doing business in several locations throughout the United States, including the New York metropolitan area, California, and Texas.

17. Upon information and belief, Respondent Samsung Electronics America, Inc. is a New York corporation with its principal place of business located at 85 Challenger Road, Ridgefield Park, New Jersey 07660. *Id.* at ¶ 40.

18. Upon information and belief, Samsung Electronics America, Inc. is a wholly owned subsidiary of Samsung Electronics Co., Ltd. These two entities are therefore collectively referred to in this Complaint as "Samsung." *See Certain Audio Processing Hardware, Software & Prods. Containing the Same*, Inv. No. 337-TA-1026, Samsung's Response to Complaint at ¶ 27 (Nov. 21, 2016); *Certain RF Capable Integrated Circuits & Prods. Containing the Same*, Inv. No. 337-TA-982, Samsung's Response to Complaint at ¶ 37 (Feb. 22, 2016).

19. Upon information and belief, Samsung imports into the United States, sells for importation into the United States, and/or sells within the United States after importation certain LTE-compliant cellular communication devices including cellular phones, tablets, and

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smartwatches (collectively, “Accused Samsung Products”) that infringe one or more valid claims of the Asserted Patents.

20. Upon information and belief, the Accused Samsung Products are manufactured outside of the United States and imported into the United States. The Accused Samsung Products are sold by Samsung for importation into the United States, imported by or on behalf of Samsung, and/or sold by Samsung within the United States after importation. Affixed to the packaging, as well as the rear surface of the Accused Samsung Products, are markings indicating that the devices are designed by Samsung and manufactured in various foreign countries, including but not limited to Vietnam, China, and South Korea. *See **Exhibits 193–213***.

21. As set forth below, the Accused Samsung Products infringe at least one valid claim of each Asserted Patent.

## **2. Motorola**

22. Upon information and belief, Respondent Motorola Mobility LLC (“Motorola”) is a Delaware corporation with its principal place of business at 222 West Merchandise Mart Plaza, Suite 1800, Chicago, Illinois 60654. *See Certain Capacitive Touch-Controlled Mobile Devices, Computers, & Components Thereof*, Inv. No. 337-TA-1193, Motorola’s Response to Complaint at ¶ 36 (Apr. 20, 2020).

23. Upon information and belief, Motorola Mobility LLC is a wholly owned subsidiary of Lenovo Group Ltd, a corporation organized and existing under the laws of the People’s Republic of China, with its principal place of business at No. 6 Chuang ye Road, Shangdi Information Industry Base, Haidan District, Beijing, China 100085. *See, e.g., Certain Touch-Controlled Mobile Devices, Computers, and Components Thereof*, Inv. No. 337-TA-1162, Lenovo’s Response to Complaint at ¶ 28 (July 22, 2019); Motorola’s Response to Complaint at ¶ 33 (July 22, 2019).

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24. Upon information and belief, Motorola imports into the United States, sells for importation into the United States, and/or sells within the United States after importation certain LTE-compliant cellular communication devices including cellular phones (collectively, “Accused Motorola Products”) that infringe one or more valid claims of the Asserted Patents.

25. Upon information and belief, the Accused Motorola Products are manufactured outside of the United States and imported into the United States. The Accused Motorola Products are sold by Motorola for importation into the United States, imported by or on behalf of Motorola, and/or sold by Motorola within the United States after importation. Affixed to the packaging, as well as the rear surface of the Accused Motorola Products, are markings indicating that the devices are designed by Motorola and manufactured in various foreign countries, including but not limited to China and India. *See* **Exhibits 214–23**.

26. As set forth below, the Accused Motorola Products infringe at least one valid claim of each Asserted Patent.

**III. THE TECHNOLOGY AND PRODUCTS AT ISSUE**

**A. Clear Statement in Plain English Describing the Categories of the Products Accused**

27. Pursuant to 19 C.F.R. § 210.12(a)(12), the Accused Products are LTE-compliant cellular phones, tablets, and smartwatches imported into the United States, sold for importation into the United States, and/or sold in the United States after importation by or on behalf of Samsung and Motorola.

28. Specific examples of infringing products imported into the United States, sold for importation into the United States, and/or sold in the United States after importation by or on behalf of the proposed Respondents are set forth in detail below. Photographs of representative infringing imported articles (or packaging for such articles) from each proposed Respondent are

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provided at **Exhibits 193–223**. All of the Accused Products, which are configured to comply with the LTE standards, utilize the patented technology claimed in the Asserted Claims, as described further below.

29. Upon information and belief, the proposed Respondents maintain commercially significant inventories of imported infringing products in the United States.

**B. Background Information on the Technology at Issue**

30. The Third Generation Partnership Project (“3GPP”) develops standards for globally applicable commercial cellular systems. The Organizational Partners of 3GPP are major telecommunications standards developing organizations from around the world, including the European Telecommunications Standards Institute (“ETSI”), the North American Alliance for Telecommunication Industry Solutions, the Telecommunications Technology Association of Korea, and others. Companies participate in 3GPP via their membership in one of the Organizational Partners. LGE—the original owner of the portfolio at issue and Evolved’s Domestic Industry licensee—is a member of at least one Organizational Partner, either directly or through a subsidiary.

31. Global standards establish precise specifications for the essential components of telecommunications systems and are fundamental in allowing products and services from unrelated competitors to be compatible and operate seamlessly within a telecommunications network.

32. The 3GPP standards for cellular wireless communications are known as Releases. Release 8 describes the first version of the Long-Term Evolution (“LTE”) standard. The LTE standard network includes Evolved Universal Terrestrial Access Network (“E-UTRAN”) and a Core Network called Evolved Packet Core.

33. Each Release consists of a series of technical specifications (“TS”). The 3GPP 36 series of technical specifications covers the E-UTRAN, including at least TS 36.211, 36.212,



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36.213, 36.300, 36.321, and 36.331. Starting with Release 8, LTE has been commercially available in the United States since around 2010.

34. Developing the standards is an iterative process in which industry participants compete to find novel solutions to the standard's technical challenges and goals, including increased data rates and throughput, reduced latency, and higher reliability. The member companies participated in 3GPP Working Groups to discuss, vote, and select the most appropriate technology among competing proposals to provide each individual function within the standard. Technologies patented by the members become part of the 3GPP standards.

35. 3GPP participants must abide by the intellectual property rights ("IPR") policy of the Organizational Partners to which they belong. These IPR policies, such as the ETSI IP policy, are intended to strike "a balance between the needs of standardization for public use in the field of telecommunications and the rights of the owners of IPRs." See **Exhibit 97** at § 3.1. According to the ETSI Rules of Procedure, "IPR holders whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS." See **Exhibit 97** at § 3.2.

36. 3GPP participants are required to disclose intellectual property (including patents and patent applications) owned by them that they believe are or are likely to become essential, or that might be essential, to any 3GPP standard, including LTE. Companies are also required by IPR policies to license their intellectual property on terms that are fair, reasonable, and non-discriminatory ("FRAND"). See **Exhibit 97** at § 6.1. These policies bind all successors-in-interest to license essential intellectual property on FRAND terms. See **Exhibit 97** at § 6.1bis.

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37. The technology at issue in this case originated with LGE. As an ETSI member, LGE participated extensively in 3GPP Working Groups to develop the LTE standards. LG submitted numerous proposals for incorporation into the standards, and LGE's research and development efforts solved significant technical challenges facing the standards. The Evolved Portfolio includes patents that claim several of LGE's technical solutions that solve challenges in wireless telecommunications technology.

38. Cellular phones and devices allow users to make or receive telephone calls and transmit and receive data wirelessly over a wide geographical area.

39. Around 1980, first generation ("1G") mobile phones were introduced to the public. These phones used analog modulation techniques—specifically, frequency division multiple access ("FDMA") to transmit voice calls.

40. In the 1990s, second generation ("2G") phones emerged. These phones used digital technology, which permitted more efficient use of the radio spectrum than their 1G predecessors. While 2G systems were originally designed only for voice, they were later enhanced to include data transmission. However, they could only achieve low data rates.

41. During the same time period of growth for 2G communications systems, overall usage of the Internet also increased. In response to user demand for higher data rates, third generation ("3G") phones emerged.

42. While voice calls traditionally dominated the traffic in mobile communications, the increasing number of mobile devices and the advancement of mobile device technology with increased features and data-hungry applications drove demand for faster and more reliable data transmissions. Data traffic over cellular networks has therefore increased dramatically since the mid- to late-2000s.

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43. Given the increased demand for data, coupled with limited available radio spectrum, mobile communication developers were required to create a new standard that—compared to 3G—offered much higher data rates, lower latency, and improved overall user experience. LTE is the result of this development.

44. The Evolved Portfolio solves particular problems arising in wireless cellular communications between mobile devices and cellular networks. The above-referenced benefits of LTE, such as higher throughput and lower latency, could be achieved only after significant challenges were overcome. These challenges included at least interference management and signal processing. The Evolved Portfolio addresses some of these challenges and offers specific solutions to improve mobile device functionality over the prior art with faster, more reliable, and more efficient voice and data transmissions. The following section presents an overview of the technological problems addressed by—and the solutions claimed in—each of the Asserted Patents.

#### **IV. THE ASSERTED PATENTS**

45. Evolved’s technology portfolio enjoys significant intellectual property protection, including at least 27 issued United States Patents and at least 113 issued foreign patents. Each of the Asserted Patents described below is, to the best of Evolved’s knowledge, information, and belief, infringed by at least one of each of the Respondents’ Accused Products.

##### **A. United States Patent No. RE46,679**

###### **1. Identification of the ’679 Patent and Evolved’s Interest Therein**

46. United States Patent No. RE46,679 (the “’679 Patent”) entitled “Method of Transmitting and Receiving Radio Access Information in a Wireless Mobile Communications System,” duly and legally issued on January 16, 2018, from Reissue Application No. 14/326,637, filed on July 9, 2014. The ’679 Patent is a reissue of United States Patent No. 8,219,097 (the “’097 Patent”), which issued on July 10, 2012, from United States Patent Application No. 12/870,747,

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filed on August 27, 2010, and naming Sun Jun Park, Young Dae Lee, Sung Duck Chun, and Myung Cheul Jung as co-inventors. A certified copy of the '679 Patent is attached hereto as **Exhibit 1** and is incorporated by reference.

47. The '097 Patent—from which the '679 Patent reissued—is a continuation of United States Patent Application No. 11/553,939, filed on October 27, 2006, and issued as United States Patent No. 7,809,373 on October 5, 2010. The '679 Patent also claims priority to United States Provisional Patent Application No. 60/732,080, filed on October 31, 2005, and Korean Application No. 10-2006-0063135, filed on July 5, 2006. By virtue of its proper claim to priority, the '679 Patent has an effective filing date of October 31, 2005.

48. Evolved owns by assignment the entire right, title, and interest in and to the '679 Patent. Certified copies of each recorded assignment transferring title of the '679 patent from the inventors to LG, from LG to TQ Lambda, and from TQ Lambda to Evolved are attached as **Exhibits 4 and 6–9**.

49. The '679 Patent is valid, enforceable, and currently in full force and effect. The '679 Patent expires on October 27, 2026.

50. Pursuant to 19 C.F.R. § 210.12(c) and the Commission's Temporary Change to Filing Procedures dated March 16, 2020, the original of this Complaint is accompanied by an electronic certified copy of the '679 Patent at **Exhibit 1**, an electronic certified copy of the file history of the '679 Patent at **Appendix A1**, and electronic copies of each patent and applicable pages of each technical reference mentioned in the prosecution history of the '679 Patent (not already part of **Appendix A1**) at **Appendix A2**.

**PUBLIC****2. Non-Technical Description of the Patented Invention<sup>3</sup>**

51. The '679 Patent generally relates to the handover of an LTE cellular device from one cell tower base station (the source base station) to another cell tower base station (the target base station). The patented systems and methods relate to a more efficient—and faster—handover process.

52. Handovers are fundamental to the cellular architecture of LTE wireless telecommunication systems. Cellular coverage in a network relies on base stations. When a mobile device (like a cellular phone, tablet, or smartwatch) moves from the coverage area of one base station to the coverage area of a new base station, the mobile device must establish a connection with the target base station in a process called a handover. In the prior art, the mobile device would send a signal to establish synchronization and make scheduling requests. The signal included information related to a random-access preamble selected randomly by the mobile device. However, the signal was susceptible to collision and disruption during the handover process due to, *inter alia*, multiple devices using the same preamble. As more and more devices enter and leave a cellular coverage area, the likelihood of such a collision increases. Collisions between mobile devices increase service interruptions, ultimately reducing the quality and/or availability of service.

53. The '679 Patent addresses problems arising out of the use of a limited number of preambles in a random-access process. Specifically, the '679 Patent discloses an LTE mobile device that receives preamble information—such as a preamble index—related to a device-specific random-access channel (“RACH”) preamble sent from the target base station via the source base

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<sup>3</sup> The non-technical descriptions of the Asserted Patents herein are presented to give a general background of those patents. These statements are non-limiting and not intended to—nor should they—be used for purposes of claim construction or claim interpretation. Evolved presents these statements subject to and without waiver of its right to argue that claim terms should be construed in a particular way under claim construction jurisprudence and the relevant evidence.

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station to the mobile device, and then uses that information to establish a connection with the target base station during the handover process. The use of the device-specific preamble eliminates the likelihood of collision between mobile devices, which reduces handover processing time and results in a faster and more efficient method of accessing a target base station.

**3. Contributions to the LTE Standards – '679 Patent**

54. LGE was heavily involved in the development of the LTE standards. With respect to the family that includes the '679 Patent, LGE submitted proposals during the standard development process to implement dedicated RACH preambles in the handover procedure. After more than a year of discussion by key industry players, the 3GPP RAN participants agreed to incorporate dedicated RACH preambles into the LTE standard. The claims of the '679 Patent are essential to implementing this portion of the LTE standard.

55. For example, participants from LGE attended the TSG RAN WG2 Meeting #53 held in Shanghai, China, in May 2006. LGE submitted document number R2-061552 for discussion and decision titled "Discussion on Initial Access to LTE Cell." See **Exhibit 98**. In that document, LGE proposed that "[i]n the case of handover, the UE may be able to send a RACH preamble in a target cell with a resource which was allocated from a source cell. To enable this, the source cell will receive the RACH preamble resource from the target cell before sending a handover command to the UE during a handover procedure between the cells." See **Exhibit 98** at § 2.2.2.1.

56. According to document number R2-062314, the 3GPP meeting minutes for RAN WG2 Meeting #53, several other participants submitted proposals for the same meeting regarding the LTE handover procedure, including Qualcomm, Motorola, Nokia, Samsung, Ericsson, and Alcatel. See **Exhibit 99**.

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57. After the RAN WG2 Meeting #53, the participants continued to discuss and debate several topics related to the technologies claimed in the '679 Patent, including the structure of the LTE RACH channel and the LTE handover procedure. *See, e.g.,* **Exhibit 100**, 3GPP RAN WG2 Meeting Minutes, R2-062316; *See also* **Exhibit 103**, R2-062996; **Exhibit 104**, R2-063339; **Exhibit 106**, R2-070341; **Exhibit 108**, R2-070896; **Exhibit 109**, R2-071151; **Exhibit 112**, R2-072131; **Exhibit 114**, R2-072901; **Exhibit 115**, R2-073623; **Exhibit 117**, R2-074444.

58. As the development of the standard progressed, LGE and other companies continued to propose using a dedicated RACH preamble in the handover process. *See* **Exhibit 101**, R2-062809 (discussing ZTE's proposal: "signatures in the non-synchronized preamble is divided into two types, one is dedicated for handover access called reserves signature and another for other random accesses called non-reserved signature"); **Exhibit 105**, R2-063556 (liaison statement regarding the proposal to use a reserved RACH signature); **Exhibit 107**, R2-070687 (LGE statement: "Dedicated signatures for the RACH procedure can be used for different cases in order to prevent contention due to the fact that several users send the same signature"); **Exhibit 110**, R2-071455 (LGE's proposal); **Exhibit 111**, R2-072084 (LGE's and Samsung's joint proposal regarding "management of dedicated signatures"); **Exhibit 113**, R2-072792 (Motorola's proposal for assigning dedicated RACH preambles from the source base station).

59. As evidenced by the meeting minutes, many different proposals were submitted to 3GPP regarding the LTE handover procedure. As one example, Fujitsu proposed that instead of using a dedicated resource for a non-contention-based handover, all handover UEs could use a shared access slot for a "less-contention-based handover." *See* **Exhibit 102**, R2-062886 ("The UL radio resource allocated by a target eNodeB to a handover UE for the transmission of initial and re-attempt access signals is not exclusive for only this handover UE. The same radio resource can

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be simultaneously shared by plural handover UEs but not by non-handover UEs.”). Out of all the proposals regarding the LTE handover procedure, the 3GPP participants reached consensus that dedicated RACH preambles should be adopted into the LTE standard.

60. For the RAN WG2 Meeting #59 in June 2007, Nokia Siemens Networks submitted Change Request 0004 for technical specification 36.300, which incorporated the use of dedicated preambles in the LTE handover procedure in section 10.1.2.1. *See **Exhibit 116***, R2-073863. According to the meeting minutes for RAN WG2 Meeting #59, this change request was agreed to by e-mail. *See **Exhibit 117***, R2-074444. The change request was then submitted to the RAN Plenary group for incorporation into the published technical specifications. *See **Exhibit 118***, RP-070637. The RAN Plenary Group approved this change request at the RAN Plenary Group Meeting #37 in September 2007, and the dedicated RACH preamble was incorporated into the LTE technical specifications. *See **Exhibit 119***, RP-071002.

61. On April 12, 2010, LGE submitted an IPR Information Statement and Licensing Declaration to the ETSI, declaring U.S. Patent Application No. 11/553,939 (which issued as the '373 Patent, the parent of the '679 Patent) essential to the LTE Standards. *See **Exhibit 120***.

#### **4. Foreign Counterparts to the '679 Patent**

62. Pursuant to 19 C.F.R. § 210.12(a)(9)(v), the following is a list of all foreign patents, foreign patent applications (not already issued as a patent), and each foreign patent application that has been denied, abandoned, or withdrawn corresponding to the '679 Patent:

| <b>Patent/Application No.</b> | <b>Country</b>   | <b>Status</b> |
|-------------------------------|------------------|---------------|
| 2006323560                    | AU – Australia   | ISSUED        |
| PI0617783-2                   | BR – Brazil      | ABANDONED     |
| 06847353.7                    | CH – Switzerland | ISSUED        |
| 19164548.0                    | CH – Switzerland | ISSUED        |
| 200680040518.1                | CN – China       | ISSUED        |
| 06847353.7                    | DE – Germany     | ISSUED        |
| 16002537.5                    | DE – Germany     | ISSUED        |



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| <b>Patent/Application No.</b> | <b>Country</b>              | <b>Status</b> |
|-------------------------------|-----------------------------|---------------|
| 19164548.0                    | DE – Germany                | ISSUED        |
| 06847353.7                    | DK – Denmark                | ISSUED        |
| 19164548.0                    | DK – Denmark                | ISSUED        |
| 06847353.7                    | EP – European Patent Office | ISSUED        |
| 16002537.5                    | EP – European Patent Office | ISSUED        |
| 17020418.4                    | EP – European Patent Office | PUBLISHED     |
| 19164548.0                    | EP – European Patent Office | ISSUED        |
| 20164685.8                    | EP – European Patent Office | PUBLISHED     |
| 06847353.7                    | ES – Spain                  | ISSUED        |
| 19164548.0                    | ES – Spain                  | ISSUED        |
| 06847353.7                    | FI – Finland                | ISSUED        |
| 19164548.0                    | FI – Finland                | ISSUED        |
| 06847353.7                    | FR – France                 | ISSUED        |
| 16002537.5                    | FR – France                 | ISSUED        |
| 19164548.0                    | FR – France                 | ISSUED        |
| 06847353.7                    | GB – United Kingdom         | ISSUED        |
| 16002537.5                    | GB – United Kingdom         | ISSUED        |
| 19164548.0                    | GB – United Kingdom         | ISSUED        |
| 18110242.5                    | HK – Hong Kong              | PUBLISHED     |
| 42020004471.7                 | HK – Hong Kong              | PUBLISHED     |
| 17111015.9                    | HK – Hong Kong              | ISSUED        |
| 06847353.7                    | IE – Ireland                | ISSUED        |
| 19164548.0                    | IE – Ireland                | ISSUED        |
| 1324/KOLNP/2008               | IN – India                  | ISSUED        |
| 1093/KOLNP/2015               | IN – India                  | ABANDONED     |
| 06847353.7                    | IT – Italy                  | ISSUED        |
| 19164548.0                    | IT – Italy                  | ISSUED        |
| 2008-533234                   | JP – Japan                  | ISSUED        |
| 10-2006-0063135               | KR – Republic of Korea      | ISSUED        |
| MX/A/2008/004924              | MX – Mexico                 | ISSUED        |
| 06847353.7                    | NL – Netherlands            | ISSUED        |
| 16002537.5                    | NL – Netherlands            | ISSUED        |
| 19164548.0                    | NL – Netherlands            | ISSUED        |
| 2008-0113180                  | RU – Russian Federation     | ISSUED        |
| 06847353.7                    | SE – Sweden                 | ISSUED        |
| 19164548.0                    | SE – Sweden                 | ISSUED        |
| 95138124                      | TW – Taiwan                 | ISSUED        |
| PCT/KR2006/003697             | WO – WIPO                   | NAT PHASE     |
| 200802861                     | ZA – South Africa           | ABANDONED     |

**PUBLIC****B. United States Patent No. RE48,326****1. Identification of the '326 Patent and Evolved's Interest Therein**

63. United States Patent No. RE48,326 (the "'326 Patent"), entitled "Method of Transmitting and Receiving Radio Access Information in a Wireless Mobile Communications System," duly and legally issued on November 24, 2020, from Reissue Application No. 15/804,824, filed on November 6, 2017. The '326 Patent is a reissue of United States Patent No. 8,412,201 (the "'201 Patent"), which issued on April 2, 2013, from United States Patent Application No. 13/487,081, filed on June 1, 2012, and naming Sun Jun Park, Young Dae Lee, Sung Duck Chun, and Myung Cheul Jung as co-inventors. A non-certified copy of the '326 Patent is attached hereto as **Exhibit 2** and is incorporated by reference.

64. The '326 Patent is a continuation of United States Patent Application No. 14/676,490, filed as a reissue application on April 1, 2015, and reissued from the '201 Patent as United States Patent No. RE46,602 on November 7, 2017. The '201 Patent—from which the '326 Patent reissued—is a continuation of United States Patent Application No. 12/870,747, filed on August 27, 2010, and issued as United States Patent No. 8,219,097 on July 10, 2012, which is itself a continuation of United States Patent Application No. 11/553,939, filed on October 27, 2006, and issued as United States Patent No. 7,809,373 on October 5, 2010. The '326 Patent also claims priority to United States Provisional Patent Application No. 60/732,080, filed on October 31, 2005, and Korean Application No. 10-2006-0063135, filed on July 5, 2006. By virtue of its proper claim to priority, the '326 Patent has an effective filing date of October 31, 2005.

65. Evolved owns by assignment the entire right, title, and interest in and to the '326 Patent. Certified copies of each recorded assignment transferring title of the '326 patent from the inventors to LG, from LG to TQ Lambda, and from TQ Lambda to Evolved are attached as **Exhibits 4 and 6–9**.

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66. The '326 Patent is valid, enforceable, and currently in full force and effect. The '326 Patent expires on October 27, 2026.

67. Pursuant to 19 C.F.R. § 210.12(c) and the Commission's Temporary Change to Filing Procedures dated March 16, 2020, the original of this Complaint is accompanied by an electronic non-certified copy of the '326 Patent at Exhibit 2, an electronic non-certified copy of the file history of the '326 Patent at Appendix B1, and electronic copies of each patent and applicable pages of each technical reference mentioned in the prosecution history of the '326 Patent (not already part of Appendix B1) at Appendix B2.<sup>4</sup>

**2. Non-Technical Description of the Patented Invention**

68. The '326 Patent generally relates to the handover of an LTE cellular device from one cell tower base station (the source base station) to another cell tower base station (the target base station). The patented systems and methods relate to a more efficient—and faster—handover process.

69. Handovers are fundamental to the cellular architecture of LTE wireless telecommunication systems. Cellular coverage in a network relies on base stations. When a mobile device (like a cellular phone, tablet, or smartwatch) moves from the coverage area of one base station to the coverage area of a new base station, the mobile device must establish a connection with the target base station in a process called a handover. In the prior art, the mobile device would send a signal to establish synchronization and make scheduling requests. The signal included information related to a random-access preamble selected randomly by the mobile device. However, the signal was susceptible to collision and disruption during the handover process due to, *inter alia*, multiple devices using the same preamble. As more and more devices enter and leave

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<sup>4</sup> Evolved has ordered certified copies of the '326 patent and its prosecution history and will provide certified copies as soon as they are received.

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a cellular coverage area, the likelihood of such a collision increases. Collisions between mobile devices increase service interruptions, ultimately reducing the quality and/or availability of service.

70. The '326 Patent addresses problems arising out of the use of a limited number of preambles in a random-access process. Specifically, the '326 Patent discloses an LTE mobile device that receives preamble information—such as a preamble index—related to a device-specific preamble sent from the target base station via the source base station to the mobile device, and then uses that information to establish a connection with the target base station during the handover process. The use of the device-specific preamble eliminates the likelihood of collision between mobile devices, which reduces handover processing time and results in a faster and more efficient method of accessing a target base station.

### **3. Contributions to the LTE Standards – '326 Patent**

71. The '326 Patent is related to and in the same family as the '679 Patent, discussed above. Like the claims of the '679 Patent, the claims of the '326 Patent are essential to implementing dedicated RACH preambles into the LTE standard. Evolved incorporates by reference herein the discussion in paragraphs 54–61, *supra*.

### **4. Foreign Counterparts to the '326 Patent**

72. Pursuant to 29 C.F.R. § 210.12(a)(9)(v), the following is a list of all foreign patents, foreign patent applications (not already issued as a patent), and each foreign patent application n that has been denied, abandoned, or withdrawn corresponding to the '326 Patent:

| <b>Patent/Application No.</b> | <b>Country</b>   | <b>Status</b> |
|-------------------------------|------------------|---------------|
| 2006323560                    | AU – Australia   | ISSUED        |
| PI0617783-2                   | BR – Brazil      | ABANDONED     |
| 06847353.7                    | CH – Switzerland | ISSUED        |
| 19164548.0                    | CH – Switzerland | ISSUED        |
| 200680040518.1                | CN – China       | ISSUED        |
| 06847353.7                    | DE – Germany     | ISSUED        |
| 16002537.5                    | DE – Germany     | ISSUED        |

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| <b>Patent/Application No.</b> | <b>Country</b>              | <b>Status</b> |
|-------------------------------|-----------------------------|---------------|
| 19164548.0                    | DE – Germany                | ISSUED        |
| 06847353.7                    | DK – Denmark                | ISSUED        |
| 19164548.0                    | DK – Denmark                | ISSUED        |
| 06847353.7                    | EP – European Patent Office | ISSUED        |
| 16002537.5                    | EP – European Patent Office | ISSUED        |
| 17020418.4                    | EP – European Patent Office | PUBLISHED     |
| 19164548.0                    | EP – European Patent Office | ISSUED        |
| 20164685.8                    | EP – European Patent Office | PUBLISHED     |
| 06847353.7                    | ES – Spain                  | ISSUED        |
| 19164548.0                    | ES – Spain                  | ISSUED        |
| 06847353.7                    | FI – Finland                | ISSUED        |
| 19164548.0                    | FI – Finland                | ISSUED        |
| 06847353.7                    | FR – France                 | ISSUED        |
| 16002537.5                    | FR – France                 | ISSUED        |
| 19164548.0                    | FR – France                 | ISSUED        |
| 06847353.7                    | GB – United Kingdom         | ISSUED        |
| 16002537.5                    | GB – United Kingdom         | ISSUED        |
| 19164548.0                    | GB – United Kingdom         | ISSUED        |
| 18110242.5                    | HK – Hong Kong              | PUBLISHED     |
| 42020004471.7                 | HK – Hong Kong              | PUBLISHED     |
| 17111015.9                    | HK – Hong Kong              | ISSUED        |
| 06847353.7                    | IE – Ireland                | ISSUED        |
| 19164548.0                    | IE – Ireland                | ISSUED        |
| 1324/KOLNP/2008               | IN – India                  | ISSUED        |
| 1093/KOLNP/2015               | IN – India                  | ABANDONED     |
| 06847353.7                    | IT – Italy                  | ISSUED        |
| 19164548.0                    | IT – Italy                  | ISSUED        |
| 2008-533234                   | JP – Japan                  | ISSUED        |
| 10-2006-0063135               | KR – Republic of Korea      | ISSUED        |
| MX/A/2008/004924              | MX – Mexico                 | ISSUED        |
| 06847353.7                    | NL – Netherlands            | ISSUED        |
| 16002537.5                    | NL – Netherlands            | ISSUED        |
| 19164548.0                    | NL – Netherlands            | ISSUED        |
| 2008-0113180                  | RU – Russian Federation     | ISSUED        |
| 06847353.7                    | SE – Sweden                 | ISSUED        |
| 19164548.0                    | SE – Sweden                 | ISSUED        |
| 95138124                      | TW – Taiwan                 | ISSUED        |
| PCT/KR2006/003697             | WO – WIPO                   | NAT PHASE     |
| 200802861                     | ZA – South Africa           | ABANDONED     |

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**C. United States Patent No. 10,517,120**

**1. Identification of the '120 Patent and Evolved's Interest Therein**

73. United States Patent No. 10,517,120 (the "'120 Patent"), entitled "Data Transmission Method and User Equipment for the Same," duly and legally issued on December 24, 2019, from United States Patent Application No. 15/664,686, filed on July 31, 2017, and naming Sung Jun Park, Seung June Yi, Young Dae Lee, and Sung Duck Chun as co-inventors. A certified copy of the '120 Patent is attached hereto as **Exhibit 3** and is incorporated by reference

74. The '120 Patent is a continuation of United States Patent Application No. 15/294,351, filed on October 14, 2016, and issued as United States Patent No. 9,775,177 on September 26, 2017, which is itself a continuation of United States Patent Application No. 13/801,529, filed on March 13, 2013, and issued as United States Patent No. 9,532,336 on December 27, 2016, which is itself a continuation of United States Patent Application No. 12/972,366, filed on December 17, 2010, and issued as United States Patent No. 8,422,410 on April 16, 2013, which is itself a continuation of United States Patent Application No. 12/538,514, filed on August 10, 2009, and issued as United States Patent No. 7,881,236 on February 1, 2011. The '120 Patent also claims priority to United States Provisional Patent Application No. 61/087,988, filed on August 11, 2008, and Korean Application No. 10-2009-0057128, filed on June 25, 2009. By virtue of its proper claim to priority, the '120 Patent has an effective filing date of August 11, 2008.

75. Evolved owns by assignment the entire right, title, and interest in and to the '120 Patent. Certified copies of each recorded assignment transferring title of the '120 patent from the inventors to LG, from LG to TQ Lambda, and from TQ Lambda to Evolved are attached as **Exhibits 5 and 8-9**.

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76. The '120 Patent is valid, enforceable, and currently in full force and effect. The '120 Patent expires on August 10, 2029.

77. Pursuant to 19 C.F.R. § 210.12(c) and the Commission's Temporary Change to Filing Procedures dated March 16, 2020, the original of this Complaint is accompanied by an electronic certified copy of the '120 Patent at **Exhibit 3**, an electronic certified copy of the file history of the '120 Patent at **Appendix C1**, and electronic copies of each patent and applicable pages of each technical reference mentioned in the prosecution history of the '120 Patent (not already part of **Appendix C1**) at **Appendix C2**.

## **2. Non-Technical Description of the Patented Invention**

78. The '120 Patent generally addresses problems arising from transmission errors when data stored in an LTE mobile device's Message 3 ("Msg3") buffer is transmitted regardless of the reception mode of the Uplink Grant signal. As described in the '120 Patent, problems occur "if the data stored in the Msg3 buffer is transmitted in correspondence with the reception of *all* UL grant signals." **Exhibit 3** at 4:46–47 (emphasis added). The '120 Patent claims technical solutions to this particular problem arising in mobile device uplink grants. "An object of the present invention is to provide a data transmission method and a user equipment for the same, which is capable of solving a problem which may occur when data stored in a message 3 (Msg3) buffer is transmitted according to a reception mode of an Uplink (UL) Grant signal." **Exhibit 3** at 4:57–62.

## **3. Contributions to the LTE Standards – '120 Patent**

79. Based on LGE's contributions, the claims of the '120 Patent are essential to implement the LTE Standards. Specifically, LGE recognized that the draft LTE standard allowed for errors in uplink grant reception and Msg3 transmission. For example, for the TSG RAN WG2 Meeting #63 held in Jeju, South Korea in August of 2008, LGE submitted two documents for discussion and decision: (1) document number R2-084387, titled "Handling of Received UL Grant

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in RA Procedure,” and (2) document number R2-084388, a proposed change request. *See* **Exhibits 121–22**. As part of this submission, LGE made the following proposal: “Proposal 2: It is proposed to that only when a new UL grant is indicated in a Random Access Response, the HARQ entity instructs the HARQ process to store a MAC PDU stored in [Message 3] buffer in HARQ buffer.”

80. For the next RAN WG2 Meeting #63bis, Huawei and Qualcomm submitted change request number 0136 to technical specification 36.321, stating, “[i]n the HARQ entity section, the transmission of a Msg3 is made conditional on the grant being received in a Random Access Response.” **Exhibit 123**, R2-085833. The meeting minutes for RAN WG2 Meeting #63bis show that this change request was agreed “in principle” and was revised into a final change request for submission to the RAN Plenary Group. *See* **Exhibit 129**, R2-087432; **Exhibit 124**, R2-086126.

81. The change request was then submitted to the RAN Plenary Group. **Exhibit 126**, RP-081018. The RAN Plenary Group approved this change request at the RAN Plenary Group Meeting #42 in December of 2008. **Exhibit 127**, RP-090008.

82. On August 31, 2009, LGE submitted an IPR Information Statement and Licensing Declaration to the ETSI, declaring U.S. Patent Application No. 12/538,514 (which issued as the ’236 Patent, the parent of the ’120 Patent) essential to the LTE Standards. *See* **Exhibit 128**.

#### **4. Foreign Counterparts to the ’120 Patent**

83. Pursuant to 19 C.F.R. § 210.12(a)(9)(v), the following is a list of all foreign patents, foreign patent applications (not already issued as a patent), and each foreign patent application that has been denied, abandoned, or withdrawn corresponding to the ’120 Patent:

| <b>Patent/Application No.</b> | <b>Country</b>   | <b>Status</b> |
|-------------------------------|------------------|---------------|
| 2,720,833                     | CA – Canada      | ISSUED        |
| 09166620.6                    | CH – Switzerland | ISSUED        |
| 16020306.3                    | CH – Switzerland | ISSUED        |
| 17199914.7                    | CH – Switzerland | ISSUED        |
| 200980120004.0                | CN – China       | ABANDONED     |



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| <b>Patent/Application No.</b> | <b>Country</b>              | <b>Status</b> |
|-------------------------------|-----------------------------|---------------|
| 201410612502.X                | CN – China                  | ISSUED        |
| 09166620.6                    | DE – Germany                | ISSUED        |
| 16020306.3                    | DE – Germany                | ISSUED        |
| 17199914.7                    | DE – Germany                | ISSUED        |
| 09166620.6                    | DK – Denmark                | ISSUED        |
| 16020306.3                    | DK – Denmark                | ISSUED        |
| 17199914.7                    | DK – Denmark                | ISSUED        |
| 09166620.6                    | EP – European Patent Office | ISSUED        |
| 16020306.3                    | EP – European Patent Office | ISSUED        |
| 17199914.7                    | EP – European Patent Office | ISSUED        |
| 09166620.6                    | ES – Spain                  | ISSUED        |
| 16020306.3                    | ES – Spain                  | ISSUED        |
| 17199914.7                    | ES – Spain                  | ISSUED        |
| 09166620.6                    | FI – Finland                | ISSUED        |
| 16020306.3                    | FI – Finland                | ISSUED        |
| 17199914.7                    | FI – Finland                | ISSUED        |
| 09166620.6                    | FR – France                 | ISSUED        |
| 16020306.3                    | FR – France                 | ISSUED        |
| 17199914.7                    | FR – France                 | ISSUED        |
| 09166620.6                    | GB – United Kingdom         | ISSUED        |
| 16020306.3                    | GB – United Kingdom         | ISSUED        |
| 17199914.7                    | GB – United Kingdom         | ISSUED        |
| 0912850.5                     | GB – United Kingdom         | ISSUED        |
| 15111034.8                    | HK – Hong Kong              | ISSUED        |
| 17105902.7                    | HK – Hong Kong              | ISSUED        |
| 18114868.0                    | HK – Hong Kong              | ISSUED        |
| 09166620.6                    | IE – Ireland                | ISSUED        |
| 16020306.3                    | IE – Ireland                | ISSUED        |
| 17199914.7                    | IE – Ireland                | ISSUED        |
| 09166620.6                    | IT – Italy                  | ISSUED        |
| 16020306.3                    | IT – Italy                  | ISSUED        |
| 17199914.7                    | IT – Italy                  | ISSUED        |
| 10-2009-0057128               | KR – Republic of Korea      | ISSUED        |
| 09166620.6                    | NL – Netherlands            | ISSUED        |
| 16020306.3                    | NL – Netherlands            | ISSUED        |
| 17199914.7                    | NL – Netherlands            | ISSUED        |
| 09166620.6                    | SE – Sweden                 | ISSUED        |
| 16020306.3                    | SE – Sweden                 | ISSUED        |
| 17199914.7                    | SE – Sweden                 | ISSUED        |
| PCT/KR2009/004002             | WO – WIPO                   | NAT PHASE     |

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**D. Licenses**

84. As part of the patent purchase agreement between LGE and TQ Lambda, TQ Lambda granted back to LGE a license under each of the Asserted Patents for LGE and its subsidiaries to make, have made, use, import, offer for sale, and sell products covered by each Asserted Patent in the United States. The TQ Lambda PPA is attached to the Complaint as **Exhibit 10**.

85. In March of 2019, Evolved entered into a licensing agreement with BLU Products, Inc., agreeing to grant a nonexclusive license to various intellectual property belonging to Evolved, including the Asserted Patents.

86. The family that includes the '679 and '326 Patents was previously subject to a covenant not to sue as a result of an agreement between LGE and Qualcomm. However, the agreement between LGE and Qualcomm was terminated effective December 31, 2018. Neither the '120 Patent nor any of its parents or other related patents was subject to the covenant not to sue.

87. The Asserted Patents are not and have not been the subject of any other licensing agreements.

88. Evolved has previously attempted to license the Evolved Portfolio to Samsung and Motorola on FRAND terms. *See* **Exhibits 225, 226**.

**V. UNLAWFUL AND UNFAIR ACTS COMMITTED BY THE RESPONDENTS**

89. Upon information and belief, Respondents import into the United States, sell for importation into the United States, and/or sell within the United States after importation LTE-compliant cellular communication devices including cellular phones, tablets, and/or smartwatches that infringe one or more valid claims of the Asserted Patents in violation of Section 337. Respondents infringe the Asserted Claims literally and/or under the doctrine of equivalents. The

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following table summarizes the claims of each Asserted Patent that are infringed by each of the proposed Respondents:

| <b>Patent</b> | <b>Samsung</b>         | <b>Motorola</b>        |
|---------------|------------------------|------------------------|
| RE46,679      | <u>6</u> , 8           | <u>6</u> , 8           |
| RE48,326      | <u>18</u> , 19, 20     | <u>18</u> , 19, 20     |
| 10,517,120    | <u>12</u> , 16, 17, 18 | <u>12</u> , 16, 17, 18 |

**A. Samsung****1. Identification of Accused Samsung Products**

90. Upon information and belief, Samsung imports into the United States, sells for importation into the United States, and/or sells within the United States after importation LTE-compliant cellular communication devices, including cellular phones, tablets, and smartwatches that infringe at least one valid claim of each Asserted Patent. These infringing products are collectively referred to in this Complaint as the “Accused Samsung Products,” which are a subset of the “Accused Products” referred to herein.

91. As described herein, Evolved has procured the following sample infringing products (collectively, “Representative Samsung Products”):

| <b>Product Name</b>                 | <b>Device Type</b> |
|-------------------------------------|--------------------|
| Galaxy S10                          | Phone              |
| Galaxy S10e (International Version) | Phone              |
| Galaxy S20 5G                       | Phone              |
| Galaxy Tab S4                       | Tablet             |
| Galaxy Watch                        | Watch              |
| Galaxy Z Flip                       | Phone              |
| Galaxy A50                          | Phone              |
| Galaxy A51                          | Phone              |
| Galaxy A71 5G                       | Phone              |
| Galaxy Tab 10.1 (2019)              | Tablet             |
| Galaxy Watch3                       | Watch              |

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92. Evolved has provided charts that demonstrate how the Representative Samsung Products infringe the Asserted Claims of the Asserted Patents. *See infra*, ¶¶ 93–95; **Exhibits 12–44**. Upon information and belief, the Accused Samsung Products infringe the Asserted Claims due to the common designs and functionality of the products as they relate to the claim language of the Asserted Patents and the common ways in which the Accused Samsung Products implement and are compliant with the relevant LTE standards.

**2. Infringement of the '679 Patent**

93. Examination of the Representative Samsung Products demonstrates that the Accused Samsung Products directly infringe at least Claims 6 and 8 of the '679 Patent. Charts that apply independent Claim 6 and dependent Claim 8 of the '679 Patent to the Representative Samsung Products and the relevant LTE standards are attached to the Complaint as **Exhibits 12–22**. As demonstrated in these claim charts, the Representative Samsung Products satisfy each limitation of independent Claim 6 and dependent Claim 8 of the '679 Patent and therefore infringe those claims. Photographs of the Representative Samsung Products and/or their packaging are provided at **Exhibits 193–213**.

**3. Infringement of the '326 Patent**

94. Examination of the Representative Samsung Products demonstrates that the Accused Samsung Products directly infringe at least Claims 18, 19, and 20 of the '326 Patent. Charts that apply independent Claim 18 and dependent Claims 19 and 20 of the '326 Patent to the Representative Samsung Products and the relevant LTE standards are attached to the Complaint as **Exhibits 23–33**. As demonstrated in these claim charts, the Representative Samsung Products satisfy each limitation of independent Claim 18 and dependent Claims 19 and 20 of the '326 Patent and therefore infringe those claims. Photographs of the Representative Samsung Products and/or their packaging are provided at **Exhibits 193–213**.

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**4. Infringement of the '120 Patent**

95. Examination of the Representative Samsung Products demonstrates that the Accused Samsung Products directly infringe at least Claims 12, 16, 17, and 18 of the '120 Patent. Charts that apply independent Claim 12 and dependent Claims 16, 17, and 18 of the '120 Patent to the Representative Samsung Products and the relevant LTE standards are attached to the Complaint as **Exhibits 34–44**. As demonstrated in these claim charts, the Representative Samsung Products satisfy each limitation of independent Claim 12 and dependent Claims 16, 17, and 18 of the '120 Patent and therefore infringe those claims. Photographs of the Representative Samsung Products and/or their packaging are provided at **Exhibits 193–213**.

**B. Motorola**

**1. Identification of Accused Motorola Products**

96. Upon information and belief, Motorola imports into the United States, sells for importation into the United States, and/or sells within the United States after importation LTE-compliant cellular communication devices, including cellular phones that infringe at least one valid claim of each Asserted Patent. These infringing products are collectively referred to in this Complaint as the “Accused Motorola Products,” which are a subset of the “Accused Products” referred to herein. Moreover, upon information and belief, Motorola has previously imported into the United States, sold for importation into the United States, and/or sold within the United States after importation LTE-compliant cellular communication devices, including tablets and/or smartwatches. Because of the common ways in which LTE-compliance cellular devices infringe the Asserted Claims, Evolved reserves the right to and does accuse any such future LTE-compliant tablets and/or smartwatches that are developed by Motorola for importation into the United States.

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97. As described herein, Evolved has procured the following sample infringing products (collectively, “Representative Motorola Products”):

| <b>Product Name</b>                | <b>Device Type</b> |
|------------------------------------|--------------------|
| moto G8 Play                       | Phone              |
| moto Z4                            | Phone              |
| One Vision (International Version) | Phone              |
| razr                               | Phone              |
| One Action                         | Phone              |

98. Evolved has provided charts that demonstrate how each of the Representative Motorola Products infringe the Asserted Claims of the Asserted Patents. *See infra*, ¶¶ 99–101; **Exhibits 45–59**. Upon information and belief, the Accused Motorola Products infringe the Asserted Claims due to the common designs and functionality of the products as they relate to the claim language of the Asserted Patents and the common ways in which the Accused Motorola Products implement and are compliant with the relevant LTE standards.

## **2. Infringement of the ’679 Patent**

99. Examination of the Representative Motorola Products demonstrates that the Accused Motorola Products directly infringe at least Claims 6 and 8 of the ’679 Patent. Charts that apply independent Claim 6 and dependent Claim 8 of the ’679 Patent to the Representative Motorola Products and the relevant LTE standards are attached to the Complaint as **Exhibits 45–49**. As demonstrated in these claim charts, the Representative Motorola Products satisfy each limitation of independent Claim 6 and dependent Claim 8 of the ’679 Patent and therefore infringe those claims. Photographs of the Representative Motorola Products and/or their packaging are provided at **Exhibits 214–223**.

**PUBLIC****3. Infringement of the '326 Patent**

100. Examination of the Representative Motorola Products demonstrates that the Accused Motorola Products directly infringe at least Claims 18, 19, and 20 of the '326 Patent. Charts that apply independent Claim 18 and dependent Claims 19 and 20 of the '326 Patent to the Representative Motorola Products and the relevant LTE standards are attached to the Complaint as **Exhibits 50–54**. As demonstrated in these claim charts, the Representative Samsung Products satisfy each limitation of independent Claim 18 and dependent Claims 19 and 20 of the '326 Patent and therefore infringe those claims. Photographs of the Representative Motorola Products and/or their packaging are provided at **Exhibits 214–223**.

**4. Infringement of the '120 Patent**

101. Examination of the Representative Motorola Products demonstrates that the Accused Motorola Products directly infringe at least Claims 12, 16, 17, and 18 of the '120 Patent. Charts that apply independent Claim 12 and dependent Claims 16, 17, and 18 of the '120 Patent to the Representative Motorola Products and the relevant LTE standards are attached to the Complaint as **Exhibits 55–59**. As demonstrated in these claim charts, the Representative Motorola Products satisfy each limitation of independent Claim 12 and dependent Claims 16, 17, and 18 of the '120 Patent and therefore infringe those claims. Photographs of the Representative Motorola Products and/or their packaging are provided at **Exhibits 214–223**.

**VI. SPECIFIC INSTANCES OF IMPORTATION AND SALE**

102. Upon information and belief, Respondents design, evaluate, develop, test, and manufacture or have manufactured Accused Products outside of the United States and are importing and will continue to import into the United States, sell for importation into the United States, and/or sell within the United States after importation the Accused Products. Respondents offer the Accused Products for sale directly to customers in the United States and also sell the

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Accused Products to distributors or retailers knowing or having reason to know that the Accused Products will be resold within the United States.

103. Specific instances of importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of the Accused Products by the Respondents are set forth below. These instances are exemplary in nature and are not intended to restrict the scope of any exclusion order or other remedy the United States International Trade Commission may order.

104. Evolved successfully placed orders in the United States purchasing the following representative samples of each of the Respondents' Accused Products. Each order Evolved placed was fulfilled, and the representative samples were shipped to and received, at an address in the United States, and each of the representative samples were imported:

| <b>Respondent</b> | <b>Sample Accused Product</b>       | <b>Product Category</b> | <b>Purchase Evidence Exhibit Nos.</b> |
|-------------------|-------------------------------------|-------------------------|---------------------------------------|
| Samsung           | Galaxy S10                          | Phone                   | 163, 164, 193, 194                    |
| Samsung           | Galaxy S10e (International Version) | Phone                   | 165, 166, 195, 196                    |
| Samsung           | Galaxy S20 5G                       | Phone                   | 167-169, 197-199                      |
| Samsung           | Galaxy Tab S4                       | Tablet                  | 170-173, 200-203                      |
| Samsung           | Galaxy Watch                        | Watch                   | 170, 171, 174, 204, 205, 206          |
| Samsung           | Galaxy Z Flip                       | Phone                   | 175, 176, 207, 208                    |
| Samsung           | Galaxy A50                          | Phone                   | 177, 209                              |
| Samsung           | Galaxy A51                          | Phone                   | 178, 210                              |
| Samsung           | Galaxy A71 5G                       | Phone                   | 179, 211                              |
| Samsung           | Galaxy Tab A 10.1 (2019)            | Tablet                  | 180, 212                              |
| Samsung           | Galaxy Watch3                       | Watch                   | 181, 213                              |
| Motorola          | moto G8 Play                        | Phone                   | 182, 183, 214, 215                    |
| Motorola          | moto Z4                             | Phone                   | 184, 185, 216, 217                    |
| Motorola          | One Vision (International Version)  | Phone                   | 186-188, 218-220                      |



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| <b>Respondent</b> | <b>Sample Accused Product</b> | <b>Product Category</b> | <b>Purchase Evidence Exhibit Nos.</b> |
|-------------------|-------------------------------|-------------------------|---------------------------------------|
| Motorola          | One Action                    | Phone                   | 191, 223                              |
| Motorola          | Razr                          | Phone                   | 189, 190, 221, 222                    |

105. A detailed description of the steps Evolved took in procuring these samples and obtaining information about Respondents' Accused Products is set forth in the Declaration of Jeremy Miller in Support of the Complaint, attached as **Exhibit 88**.

**A. Importation and Sale of Infringing Samsung Products**

106. Upon information and belief, LTE-compliant cellular communication devices including cellular phones, tablets, and/or smartwatches that infringe one or more valid claims of the Asserted Patents are imported into the United States, sold for importation into the United States, and/or sold within the United States after importation by Respondent Samsung. *See **Exhibit 88***, Miller Decl. at ¶¶ 2–19, 34–41, 44–45. Photographs of the Representative Samsung Products and packaging are attached hereto as **Exhibits 193–213** in lieu of physical exhibits. The Representative Accused Samsung Products were purchased in the United States through Samsung's website, Amazon, and Best Buy. *See **Exhibits 163–81***. The packaging in which the Representative Accused Samsung Products are sold in the United States indicates those products are manufactured in at least China, Vietnam, and/or Korea. *See **Exhibits 193–213**; see also **Exhibit 88***, Miller Decl. at ¶¶ 3, 5, 7, 9, 11, 13, 15, 17, 19, 35, 37, 39, 41, 45. The shipping paperwork and packaging demonstrates that each of these products were shipped to an address within the United States, demonstrating that these products are imported. *See **Exhibits 193–213**; see also **Exhibit 88***, Miller Decl. at ¶¶ 2–19, 34–41, 44–45.

**PUBLIC****B. Importation and Sale of Infringing Motorola Products**

107. Upon information and belief, LTE-compliant cellular communication devices including cellular phones that infringe one or more valid claims of the Asserted Patents are imported into the United States, sold for importation into the United States, and/or sold within the United States after importation by Respondent Motorola. *See* **Exhibit 88**, Miller Decl. at ¶¶ 20-33, 42-43. Photographs of the Representative Motorola Products and packaging are attached hereto as **Exhibits 214–23** in lieu of physical exhibits. The Representative Accused Motorola Products were purchased in the United States through Motorola’s website, Amazon, and Walmart. *See* **Exhibits 182–91**. The packaging in which the Accused Motorola Products are sold in the United States indicates those products are manufactured in at least China and India. *See* **Exhibits 214–23**; *see also* **Exhibit 88**, Miller Decl. at ¶¶ 21, 23, 25, 27, 29, 31, 33, 43. The shipping paperwork and packaging demonstrates that each of these products were shipped to an address within the United States, demonstrating that these products are imported. *See* **Exhibits 214–23**; *see also* **Exhibit 88**, Miller Decl. at ¶¶ 20-33, 42-43.

**VII. CLASSIFICATION OF THE INFRINGING PRODUCTS UNDER THE HARMONIZED TARIFF SCHEDULE**

108. Upon information and belief, the proposed Respondents’ Accused Products are imported into the United States under at least the following headings and subheadings of the Harmonized Tariff Schedule of the United States (“HTSUS”): 8517.12.00, 8517.62.00, or 8517.70.00 (mobile phones); 8471.30.01, 8471.41.01, 8471.49.00, or 8471.50.01 (handheld computers); 8471.30.01 (laptop and desktop computers); and 9101.19.20, 9102.12, or 9102.91.20 (wearables and smartwatches). These HTSUS numbers are based on Evolved’s current knowledge and understanding of the Accused Products. They are not intended to nor should they be interpreted to restrict the products accused.

**PUBLIC****VIII. THE DOMESTIC INDUSTRY**

109. A domestic industry exists as defined under 19 U.S.C. §§ 1337(a)(2) and 1337(a)(3)(A), (B), and/or (C), comprising continuing significant investments in plant and equipment, employment of labor and capital, and substantial investment in exploitation of the Asserted Patents in the United States by LGE and its United States subsidiaries, including at least LGUSA, LG Electronics Alabama, Inc. (“LGEAI”), LG Electronics MobileComm U.S.A., Inc. (“LGEMU”),<sup>5</sup> and LG Electronics Mobile Research U.S.A., L.L.C. (“LGEMR”), through their engineering, research, and development related to certain of LGE’s LTE-compliant cellular communication devices that practice the Asserted Patents.

**A. LGE’s and its Subsidiaries’ Activities and Investments in the Domestic Industry: Economic Prong**

110. LGE was founded in 1958 and is a global leader in the design, development, and manufacture of consumer electronics and home appliances. LGE has continuously operated in the United States over the last four decades. LGE’s wholly owned U.S. subsidiary and U.S.-based parent, LGUSA, was incorporated in 1978 and continues to operate under the laws of the State of Delaware. *See* **Exhibit 144**. Upon information and belief, LGUSA accounted for approximately \$9.713 billion of LG Electronics, Inc.’s sales in 2019. *See* **Exhibit 139** at 24. LGE’s LTE-compliant cellular communication devices that practice the Asserted Patents accounted for [REDACTED] of its total sales in 2019. *See* **Exhibit 162C** at ¶ 4. LGUSA owns at least two other U.S. subsidiaries with domestic activities relating to the DI products: LGEAI was incorporated in 1981 under the laws of the State of Alabama, and LGEMU was incorporated in 1996 under the laws of the State of California. *See* **Exhibits 144, 145**. Finally, LGEMR—a subsidiary of

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<sup>5</sup> LGEMU was merged into LG Electronics U.S.A., Inc. during the third quarter of 2018. *See* **Exhibit 138** at 24

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LGEMU—was incorporated in 2004 and also continues to operate under the laws of the State of California. Today, LGE and at least these United States subsidiaries engage in a broad range of significant qualifying domestic industry activities directed to articles protected by the Asserted Patents.

111. As described above, LGE has always been either a licensee or the owner of each of the Asserted Patents. *See supra* Section IV.D; *see also supra* ¶¶ 6, 10, 14, 84, **Exhibits 4, 5, 10**.

112. In April 2017, the Commission instituted an Investigation based on a Complaint filed by LG Electronics alleging the existence of a domestic industry based on the same class of LTE-compliant mobile communications devices as at issue in this Complaint. The Commission instituted the Investigation on the basis of a sworn, confidential domestic industry declaration provided by LGE, which detailed its U.S. domestic investments and activities relating to LTE-compliant mobile devices. *See* Confidential Exhibit 58C to the Complaint in Investigation No. 337-TA-1051; **Exhibit 136**, LGE’s Complaint at ¶¶ 113–24; EDIS Doc. ID No. 606684, Attachment ID 1167280; Doc. ID No. 606681, Attachment ID 1167336; **Exhibit 137**, Public Version of LGE’s exhibit. Publicly available information indicates that the same categories of domestic industry activities continue today, involving LTE-compliant mobile device Domestic Industry Products closely related to those in the 1051 Investigation. Evolved will propound discovery on LGE to confirm the precise quantum and nature of these ongoing activities.

113. Specifically, in the DI declaration that accompanied the 1051 Complaint, LGE alleged that it had qualifying domestic activities based on “research and development, testing, product support, engineering, quality management, planning, logistics, and distribution of LG mobile products in the United States. These activities take place at LGEMU and LGEMR facilities located around the United States and at some supplier or business partner sites.” **Exhibit 136** at

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¶ 15. The claimed activities included “(1) research concerning product specifications based on consumers’ preferences and feedback regarding, for example, the aesthetic appearance, physical parameters, and technical functionality of the handsets; (2) generation of specifications and functional requirements for the LG mobile products; (3) providing product quality management services, which include quality testing and feedback to the design and engineering groups; and (4) research and development, engineering, testing, and technical support relating to LG mobile products.” **Exhibit 136** at ¶ 15.

114. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *See* Confidential **Exhibit 228C**. A detailed description of LGUSA’s domestic industry activities and investments in 2019 and 2020 [REDACTED] is provided in the declaration of [REDACTED] and is attached as Confidential **Exhibit 162C**. These activities include significant investment in plant and equipment, significant employment of labor and capital, and substantial investment in the exploitation of the Asserted Patents through research, development, and engineering.

115. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

*See* Confidential **Exhibit 162C** at 3.

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116. Publicly available information further confirms that LGE and its United States subsidiaries have since 2017 conducted and continue to conduct significant domestic industry activities in the United States relating to the Domestic Industry Products. LGE, moreover, continues to be a significant presence in the U.S. market. Entering calendar year 2020, LGE maintained a 12% share of the U.S. smartphone market, and as of January 28, 2021, nearly all of LGE's cellular phones sold in the United States—150 of 184 phones—complied with the LTE mobile communications standard, including the LG G8X ThinQ™ and LG G8X ThinQ™ Dual Screen. See **Exhibit 133**; **Exhibit 140** at 3. Additionally, as of January 28, 2021, seven of the eight tablet devices LGE sells in the United States comply with the LTE mobile communications standard. See **Exhibit 134**.<sup>6</sup>

117. Upon information and belief, LGE and its United States subsidiaries have facilities in at least Huntsville, Alabama; Fort Worth, Texas; Rancho Cucamonga, California; and Fontana, California devoted to research, design, quality control, testing, and technical support for the Domestic Industry Products that are protected by the Asserted Patents. See **Exhibit 137**.

118. Although LGE and its United States subsidiaries do not publicly provide their investments in plant and equipment, employment of labor and capital, or investments in engineering, research, and development on a per-business unit or per-facility basis, Evolved expects to obtain the information in discovery. Publicly available information shows that LGEAI today still employs approximately 600 total employees across all of its locations and that it

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<sup>6</sup> Although certain press reports have indicated that LGUSA may, in the future, spin off or otherwise change its participation in the U.S. smartphone market, public statements from company officials indicate that no decision has been made. “*LG Rethinks Its Smartphone Division’s Future as Chinese Rivals Power Ahead*,” Wall Street Journal, January 21, 2012. See <https://www.wsj.com/articles/eclipsed-by-chinese-rivals-lg-ponders-smartphone-future-11611239496>

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generated approximately \$136.47 million in sales per year. See **Exhibits 137**; **Exhibit 141**; **Exhibit 138** at 19. LGEAI provides service, repair, and post-sale support for LGE LTE consumers and corporate customers in the United States primarily through its Alabama headquarters as well as its facilities in Fort Worth, Texas; Rancho Cucamonga, California; and Fontana, California. See **Exhibit 137**; see also **Exhibit 138** at 19. In 2010, LGE—through LGEAI—demonstrated to the Commission that it makes substantial investments, through its post-sale service and engineering activities and significant employment of labor and capital, in the United States economy. See *Certain Video Displays, Components Thereof, & Prods. Containing the Same*, Inv. No. 337-TA-687, Initial Determination (May 20, 2010) (unreviewed). These substantial investments continue. In 2017, LGEAI's Alabama headquarters alone consisted of four buildings spanning approximately 427,000 square feet. For LGE's tax year 2016, LGAI's Alabama headquarters were assessed a local property tax value of approximately \$13,902,700. See **Exhibit 137**. Upon information and belief, LGEAI has continued these substantial and significant investments, and as of 2019, the local property taxable value of the Alabama headquarters was approximately \$14,643,100, with the facility employing approximately 300 employees who handle customer service issues and dispatch repair technicians. See **Exhibits 142, 146**.

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**Figure 1: LG Electronics Alabama, Inc. in Huntsville, Alabama**

119. LGE’s United States subsidiaries have also made and continue to make significant investments in plant and equipment, significant employment of labor and capital, and substantial investments in the exploitation of the Asserted Patents through research and development and engineering in the United States.

120. Publicly available information indicates that LGE’s United States subsidiaries, including LGEMU and LGEMR (LGEMU’s subsidiary), continue to have facilities in at least San Diego, California; San Jose, California; Morristown, New Jersey; Overland Park, Kansas; Bellevue, Washington; Redmond, Washington; Alpharetta, Georgia; Atlanta, Georgia; Austin, Texas; and Bolingbrook, Illinois. *See* **Exhibit 137**. These facilities are dedicated to research, product support, testing, and development of specifications for LGE’s cellular devices, including the Domestic Industry Products that are protected by the Asserted Patents. *See* **Exhibit 136** at ¶¶ 113–24; **Exhibit 137**. For example, LGE’s “Testing & Technical Support Team, Field Quality Engineering team, and the Product Validation Lab are all based out of San Diego,” and its other



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field sales/research offices located in New Jersey, Kansas, Washington, and Georgia “employ technical and support product engineers . . . that provide technical and product training concerning the various LG cellular phones, including LTE models.” *See* **Exhibit 137**.

121. As of 2019, the most recent information available, the local taxable property value of the San Diego facility alone increased to approximately \$11,317,070 from \$10,664,329 in 2016–2017. *See* **Exhibit 143**. LGEMU has continued these substantial and significant investments, generating approximately \$2.198 billion in sales. *See* **Exhibit 138** at 24.

122. Public information shows that LGE’s U.S. technical employees continue to undertake technical and engineering activities directed to the Domestic Industry Products, including, for example: “wireless technical management, focusing on customer requirements in [the] Global handset industry (NR/LTE/EVDO/CDMA’GSM)” and “call log analysis using Qualcomm tools QXDM, QPST, QMICM and APEX . . . [as well as] LTE networks, [b]oth FDD and TDD based models” at LGE facilities in at least Kansas and San Diego. *See, e.g.,* **Exhibits 154, 158**. LGE’s U.S. employees continue to provide “software testing on newly developed LG models” of LTE mobile devices and “perform functional tests of on new carrier requirements and technologies” for those domestic industry products. *See, e.g.,* **Exhibits 157, 159, 160**. LGE’s U.S. operations include senior engineering research and development activities relating to RF antenna design directed to the Domestic Industry LTE compliant mobile devices, such as the design and development of RF circuits and designs. *See, e.g.,* **Exhibits 161, 153**. LGE employees also continue to provide customer support services for its LTE compliant mobile devices in at least Alabama, California, and Texas. *See, e.g.,* **Exhibits 149, 151, 152, 155, 156**. Finally, LGE continues to recruit and hire U.S. employees to undertake technical, engineering, and R&D activities directed to the Domestic Industry Products, including roles that require knowledge of

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“GSM/4G LTE RF protocol who can lead network interoperability testing for mobile products”; providing “technical support by verifying handset functionalities including Radio Frequency technology (LTE/CA/MIMO/LAA/5G) and Android framework”; managing “the operations of the certification or IOT programs and oversee the development of standards and testing materials”; and “[t]echnical analysis on the technical HW/SW issues with R&D department and technical communication channel between carrier and R&D department for IOTs.” See **Exhibits 147, 148, 150.**

123. On the basis of this publicly available information and information provided by LGE, it is more than reasonable to infer that discovery will show that a significant amount of LGE’s technical activities directed to the Domestic Industry Products continues to be performed by its United States subsidiaries in various facilities throughout the United States and that LGE’s investments and activities remain significant and substantial both in absolute terms and relative to LGE’s overall operations, taking into account the nature of such expenditures in the mobile device industry, LGE’s relative size, and the relative importance of LGE’s domestic operations through its United States subsidiaries compared to its overseas activities. See **Exhibit 137.**

124. This public information and information provided by LGE also strongly indicates that LGE and its United States subsidiaries continue to make significant investments in plant, equipment, labor, and capital directed to the Domestic Industry Products that are protected by the Asserted Patents, and that LGE and its United States subsidiaries have continued to make substantial investments in the exploitation of the Asserted Patents through research, development, and engineering in the United States since LGE filed its Complaint in Inv. No. 337-TA-1051. These activities include continuing design, development, sales, and support in the United States for Domestic Industry Products that are protected by the Asserted Patents. See **Exhibit 137.**

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125. Evolved expects in discovery to obtain additional information about LGE's and its United States subsidiaries' domestic investments in plant, equipment, labor, and capital directed to the Domestic Industry Products that are protected by the Asserted Patents and exploitation of the Asserted Patents through research, development, and engineering during fact discovery, either through subpoenas to LGUSA and its subsidiaries or through LGE's further cooperation.

**B. LGE's Domestic Industry Products Practice the Asserted Patents: Technical Prong**

126. Upon information and belief, LGE's wholly owned United States subsidiaries sell in the United States certain LTE-compliant cellular communication devices, including cellular phones and tablets that practice at least one valid claim of each Asserted Patent.

127. Upon information and belief, LGE's wholly owned United States subsidiaries have engaged in significant and substantial investments in the United States with respect to LGE's LTE-compliant cellular communication devices, including cellular phones and tablets that practice at least one valid claim of each Asserted Patent. *See supra*, ¶¶ 110–125.

128. Evolved has acquired a sample LGE product, an LG G8X ThinQ (“Representative LGE Product”). As discussed further below, Evolved has provided claim charts demonstrating how the Representative LGE Product meets the language of the Asserted Claims of the Asserted Patents. *See infra*, ¶¶ 129–131; **Exhibits 129–31**. Upon information and belief, all LGE LTE-Compliant Devices meet the language of the Asserted Claims, due to the common designs and functionality of the products as they relate to the claim language of the Asserted Patents, and the common ways in which the LGE LTE-Compliant Devices implement and are compliant with the relevant LTE standards.

129. LGE's LTE-compliant cellular communication devices, including its cellular phones and tablets, practice certain claims of the '679 Patent. A chart that applies independent

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Claim 6 and dependent Claim 8 of the '679 Patent to the Representative LGE Product, the LG G8X ThinQ, and the relevant LTE standards is attached to the Complaint as **Exhibit 129**. As demonstrated in this claim chart, the representative LGE product satisfies each limitation of independent Claim 6 and dependent Claim 8 of the '679 Patent and therefore practices those claims.

130. LGE's LTE-compliant cellular communication devices, including its cellular phones and tablets, practice certain claims of the '326 Patent. A chart that applies independent Claim 18 and dependent Claims 19 and 20 of the '326 Patent to the Representative LGE Product, the LG G8X ThinQ, and the relevant LTE standards is attached to the Complaint as **Exhibit 130**. As demonstrated in this claim chart, the representative LGE product satisfies each limitation of independent Claim 18 and dependent Claims 19 and 20 of the '326 Patent and therefore practices those claims.

131. LGE's LTE-compliant cellular communication devices, including its cellular phones and tablets, practice certain claims of the '120 Patent. A chart that applies independent Claim 12 and dependent Claims 16, 17, and 18 of the '120 Patent to the Representative LGE Product and the relevant LTE standards is attached to the Complaint as **Exhibit 131**. As demonstrated in this claim chart, the Representative LGE Product satisfies each limitation of independent Claim 12 and dependent Claims 16, 17, and 18 of the '120 Patent and therefore practices those claims.

132. Photographs of the Representative LGE Product—the LG G8X ThinQ—are provided in the claim charts cited above and at **Exhibit 224**.

133. Additionally, LGE marks some of its LTE-compliant products with United States patent numbers of patents owned by Evolved and in the same families as the Asserted Patents. For example, LGE's virtual marking webpage (www.lg.com/us/patent) identifies each of the LS970,

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Optim G E970, Spectrum<sup>2</sup> VS930, Intuition VS950, Motion 4G MS770, Escape P870, Mach LS860, Optim Regard LW770, Viper LS840, Lucid VS840, Nitro P930, Spectrum VS920, Revolution VS910, Optim Intuition, and Esteem MS910 LTE as practicing U.S. Patent No. 7,809,373 (the parent of the '679 and '326 Patents), U.S. Patent No. 8,219,097 (which reissued as the '679 Patent), U.S. Patent No. 8,412,201 (which reissued as the '326 Patent), and U.S. Patent No. 7,881,236 (the parent of the '120 Patent). See **Exhibit 135**.

**IX. RELATED LITIGATION**

134. Pursuant to 19 C.F.R. § 210.12(a)(5), certain of the Asserted Patents have previously been at issue in one other legal proceeding.

135. The '679 Patent was asserted by Evolved in *Evolved Wireless LLC v. BLU Products Inc.*, Civ. No. 1:18-CV-25116 (S.D. Fla.), filed on December 6, 2018. The case was dismissed without prejudice on April 23, 2019.

136. Other than the litigation referenced in paragraph 135 above and the concurrently filed lawsuits referenced in paragraphs 137 and 138 below, the '679 has never been the subject of any litigation. Other than the concurrently filed lawsuits referenced in paragraphs 137 and 138 below, the '326 and '120 Patents have never been the subject of any litigation. The '679, '326, and '120 Patents have never been the subject of any proceeding at the Patent Trial and Appeal Board.

**A. Samsung**

137. Concurrently with the filing of this Complaint, Evolved is filing suit against Samsung in the United States District Court for the Eastern District of Texas, alleging infringement of the '679, '326, and '120 Patents.

**PUBLIC****B. Motorola**

138. Concurrently with the filing of this Complaint, Evolved is filing suit against Motorola in the United States District Court for the Northern District of Illinois, alleging infringement of the '679, '326, and '120 Patents.

**C. Related Patents**

139. The Asserted Patents claim priority through three series of continuing patent applications to other patents that have previously been litigated in a number of District Court cases and IPR proceedings, including in cases involving the Proposed Respondents. The following table lists the previous cases involving family members of the Asserted Patents (grouped by family) and the status of each:

| <b>Case</b>  | <b>Patent(s)</b>   | <b>Status</b>  |
|--|--|--|
| <i>Evolved Wireless, LLC v. Apple Inc.</i> , Civ. No. 1:15-CV-00542 (D. Del. filed June 25, 2015)                            | <u>'679, '326 Family</u><br>7,809,373<br><u>'120 Family</u><br>7,881,236 | '373 and '236 tried to jury in March 2019<br><br>Appeal of final judgment in Case No. 19-2326 (Fed. Cir.) dismissed on joint motion by the parties |
| <i>Evolved Wireless, LLC v. HTC Corp., et al.</i> , Civ. No. 1:15-CV-00543 (D. Del. filed June 25, 2015)                     | <u>'679, '326 Family</u><br>7,809,373<br><u>'120 Family</u><br>7,881,236 | '236 dropped from case   |
| <i>Evolved Wireless, LLC v. Lenovo Group Ltd., et al.</i> , Civ. No. 1:15-CV-00544 (D. Del. filed June 25, 2015)             |  | Final Judgment on appeal   |
| <i>Evolved Wireless, LLC v. Samsung Electronics Co., Ltd., et al.</i> , Civ. No. 1:15-CV-00545 (D. Del. filed June 25, 2015) |  | Case Nos. 20, 1335, 20-1337, 20-1363, 20-1339, 20-1340 (Fed. Cir.)   |
| <i>Evolved Wireless, LLC v. ZTE Corp., et al.</i> , Civ. No. 1:15-CV-00546 (D. Del. filed June 25, 2015)                     |  |  |

## PUBLIC

| Case   | Patent(s)  | Status   |
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| <i>Evolved Wireless, LLC v. Microsoft Corp., et al.</i> , Civ. No. 1:15-CV-00547 (D. Del. filed June 25, 2015)       |  |  |
| <i>ZTE (USA) Inc. v. Evolved Wireless, LLC</i> , Case No. IPR2016-00757 (P.T.A.B. filed May 31, 2016)                | <u>'120 Family</u><br>7,881,236  | Final Written Decision (Nov. 30, 2017)<br>Affirmed on Appeal (18-2008) |
| <i>Apple Inc. v. Evolved Wireless, LLC</i> , Case No. IPR2016-01185 (P.T.A.B. filed June 20, 2016)                   | <u>'679, '326 Family</u><br>7,809,373  | Institution Denied (Dec. 19, 2016)                                     |
| <i>Apple Inc. v. Evolved Wireless, LLC</i> , Case No. IPR2016-01228 (P.T.A.B. filed June 20, 2016)                   | <u>'120 Family</u><br>7,881,236  | Final Written Decision (Nov. 30, 2017)<br>Affirmed on Appeal (18-2010) |
| <i>Apple Inc. v. Evolved Wireless, LLC</i> , Case No. IPR2016-01229 (P.T.A.B. filed June 20, 2016)                   | <u>'120 Family</u><br>7,881,236  | Final Written Decision (Nov. 30, 2017)<br>Affirmed on Appeal (18-2011) |
| <i>Samsung Electronics Co., Ltd. v. Evolved Wireless, LLC</i> , Case No. IPR2016-01345 (P.T.A.B. filed July 1, 2016) | <u>'120 Family</u><br>7,881,236  | Final Written Decision (Nov. 30, 2017)<br>Affirmed on Appeal (18-2009) |
| <i>Samsung Electronics Co., Ltd. v. Evolved Wireless, LLC</i> , Case No. IPR2016-01347 (P.T.A.B. filed July 5, 2016) | <u>'679, '326 Family</u><br>7,809,373  | Institution Denied (Dec. 19, 2016)                                     |
| <i>Evolved Wireless, LLC v. ZTE (USA) Inc.</i> , Case No. 18-2008 (Fed. Cir. filed May 25, 2018)                     | <u>'120 Family</u><br>7,881,236  | Affirmed (Oct. 4, 2019)  |
| <i>Evolved Wireless, LLC v. Samsung Electronics Co., Ltd.</i> , Case No. 18-2009 (Fed. Cir. filed May 25, 2018)      | <u>'120 Family</u><br>7,881,236  | Affirmed (Oct. 4, 2019)  |
| <i>Evolved Wireless, LLC v. Apple Inc.</i> , Case No. 18-2010 (Fed. Cir. filed May 25, 2018)                         | <u>'120 Family</u><br>7,881,236  | Affirmed (Oct. 4, 2019)  |
| <i>Evolved Wireless, LLC v. Apple Inc.</i> , Case No. 18-2011 (Fed. Cir. filed May 25, 2018)                         | <u>'120 Family</u><br>7,881,236  | Affirmed (Oct. 4, 2019)  |
| <i>Evolved Wireless, LLC v. BLU Prods. Inc.</i> , Civ. No. 1:18-CV-25116 (S.D. Fla. filed Dec. 6, 2018)              | <u>'679, '326 Family</u><br>RE46,602<br>RE46,679<br>RE46,714<br><u>'120 Family</u><br>9,532,336<br>9,775,177 | Dismissed pursuant to settlement (Apr. 23, 2019)                       |

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| <b>Case</b>  | <b>Patent(s)</b>   | <b>Status</b>   |
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| <i>Evolved Wireless, LLC v. Apple Inc.</i> , Case No. 19-2326 (Fed. Cir. filed Sep. 5, 2019)                     | <u>'679, '326 Family</u><br>7,809,373<br><u>'120 Family</u><br>7,881,236 | Dismissed on joint motion of the parties                        |
| <i>Evolved Wireless, LLC v. HTC Corp.</i> , Case No. 20-1335 (Fed. Cir. filed Jan. 8, 2020)                      | <u>'679, '326 Family</u><br>7,809,373                                    | Affirmed in part, vacated in part, and remanded (Jan. 26, 2021) |
| <i>Evolved Wireless, LLC v. Motorola Mobility, LLC</i> , Case No. 20-1337 (Fed. Cir. filed Jan. 8, 2020)         | <u>'679, '326 Family</u><br>7,809,373                                    | Affirmed in part, vacated in part, and remanded (Jan. 26, 2021) |
| <i>Evolved Wireless, LLC v. ZTE (USA) Inc.</i> , Case No. 20-1339 (Fed. Cir. filed Jan. 8, 2020)                 | <u>'679, '326 Family</u><br>7,809,373                                    | Affirmed in part, vacated in part, and remanded (Jan. 26, 2021) |
| <i>Evolved Wireless, LLC v. Microsoft Corp.</i> , Case No. 20-1340 (Fed. Cir. filed Jan. 8, 2020)                | <u>'679, '326 Family</u><br>7,809,373                                    | Affirmed in part, vacated in part, and remanded (Jan. 26, 2021) |
| <i>Evolved Wireless, LLC v. Samsung Electronics Co., Ltd.</i> , Case No. 20-1363 (Fed. Cir. filed Jan. 17, 2020) | <u>'679, '326 Family</u><br>7,809,373                                    | Affirmed in part, vacated in part, and remanded (Jan. 26, 2021) |

140. The '679 and '326 Patents claim priority to U.S. Patent No. 7,809,373, which was asserted against Samsung, Motorola, and others in the United States District Court for the District of Delaware. The District Court granted summary judgment in favor of defendants, finding that Evolved's claims involving infringement of the '373 Patent by devices containing Qualcomm baseband chips were barred by exhaustion and a covenant not to sue in an agreement between LGE (the original assignee of the Evolved Portfolio) and Qualcomm. Evolved appealed the decision, arguing (1) that the agreement at issue did not cover the '373 Patent and (2) that the agreement cannot cover any infringing activities occurring after December 31, 2018, the date LGE terminated the agreement. The Court of Appeals for the Federal Circuit affirmed the District Court's findings as to infringement occurring on or before December 31, 2018, and vacated and remanded the case



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to the District Court for further consideration for all acts occurring after December 31, 2018—the date the agreement was terminated. *See* **Exhibit 227**.

**X. RELIEF REQUESTED**

141. WHEREFORE, by reason of the foregoing, Evolved respectfully requests that the United States International Trade Commission:

(a) institute an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to the proposed Respondents' violations of that section arising from the importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of LTE-compliant cellular communication devices that infringe one or more claims of the Asserted Patents;

(b) schedule and conduct a hearing pursuant to Section 337(c) for the purposes of (i) receiving evidence and hearing argument concerning whether there has been a violation of Section 337, and (ii) following the hearing, determining that there has been a violation of Section 337;

(c) issue permanent limited exclusion orders directed to products manufactured by or on behalf of each proposed Respondent, their subsidiaries, related companies, and agents pursuant to 19 U.S.C. § 1337(d) excluding entry into the United States of LTE-compliant cellular communication devices that infringe one or more claims of the Asserted Patents;

(d) issue permanent cease and desist orders pursuant to 19 U.S.C. § 1337(f) prohibiting each proposed Respondent, their domestic subsidiaries, related companies, and agents from engaging in the importation into the United States, sale for importation into the United States, sale in the United States after importation, marketing, advertising, distribution, offering for sale, sale, use, and other transfer within the United States of LTE-compliant cellular communication devices that infringe one or more claims of the Asserted Patents;

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(e) impose a bond upon importation of LTE-compliant cellular communication devices that infringe one or more claims of the Asserted Patents during the 60-day Presidential review period pursuant to 19 U.S.C. § 1337(j); and

(f) issue such other and further relief as the Commission deems just and proper under the law, based on the facts determined by the investigation and the authority of the Commission.

Dated: February 1, 2021

Respectfully submitted,

/s/ Jonathan J. Engler

ERIC M. ALBRITTON

BARRY J. BUMGARDNER

ANDREW J. WRIGHT

**NELSON BUMGARDNER ALBRITTON PC**

3131 West 7th Street, Suite 300

Fort Worth, Texas 76107 817.377.9111

(telephone) 903.758.7397 (facsimile)

ema@nbafirm.com

barry@nbafirm.com

andrew@nbafirm.com

JONATHAN J. ENGLER

DANIEL F. SMITH

JUAN J. GARCIA

**ADDUCI, MASTRIANI & SCHAUMBERG LLP**

1133 Connecticut Avenue, N.W., 12th Floor

Washington, D.C. 20036

202.467.6300 (telephone)

202.466.2006 (facsimile)

engler@adduci.com

dsmith@adduci.com

garcia@adduci.com

**COUNSEL FOR COMPLAINANT  
EVOLVED WIRELESS LLC**

**VERIFICATION TO COMPLAINT**

I, Abha Divine, declare, in accordance with 19 C.F.R. §§ 210.4 and 210.12(a) as follows:

1. I am the Managing Director at Evolved Wireless LLC and am duly authorized to sign this Complaint;
2. I have read the Complaint and am aware of its contents;
3. The Complaint is not being presented for any improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of the investigation or related proceeding;
4. To the best of my knowledge, information, and belief founded upon reasonable inquiry, the claims and other legal contentions in the Complaint are warranted by existing law or by a nonfrivolous argument for the extension, modification, or reversal of existing law or the establishment of new law; and
5. The allegations and other factual contentions made in the Complaint have evidentiary support or are likely to have evidentiary support after a reasonable opportunity for further investigation or discovery.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on February 1, 2021 in  
Austin, Texas

  
\_\_\_\_\_  
Abha Divine